

SEPTEMBER 1994, VOLUME II, NUMBER 9
OS/2 FOR CORPORATE AMERICA



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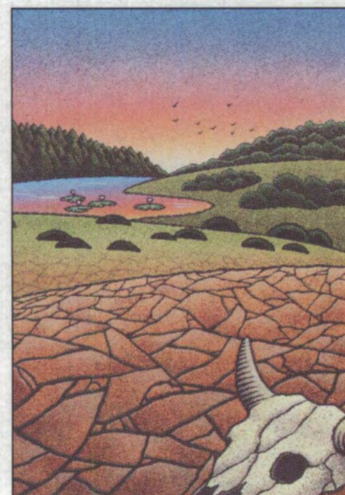
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OS/2 will come with some extra goodies, down to the wire at DeScribe, solving problems with Quantum Development, Athena plans to ship its OS/2 spreadsheet, and Lotus scores in Denmark.



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COVER ILLUSTRATION: DAVID CHEN
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THE MAGAZINE FOR OS/2 PROFESSIONALS

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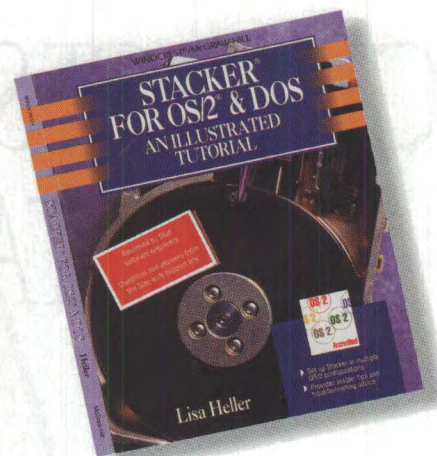
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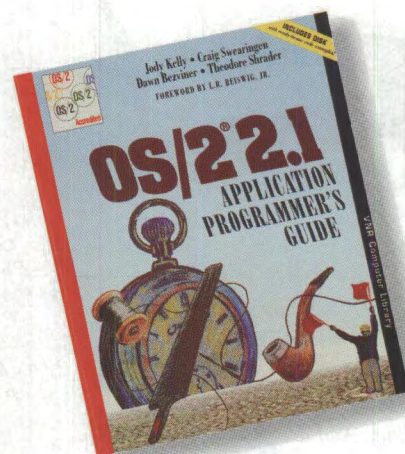
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PAGE 70

UNTIL NOW, YOUR CHOICES FOR OS/2 BACK-UP WERE TAKE IT, OR LEAVE IT.



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Potatoes Under Glass
Filet of Potato with Bernaise
Potato Wellington
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Blackened Cajun Potato
potato Pilaf

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potato and gravy
potato and cheese
potato and onion
potato and potato
potato and potato
potato and potato

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potato Soufflé
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potato Split
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potato Mousse
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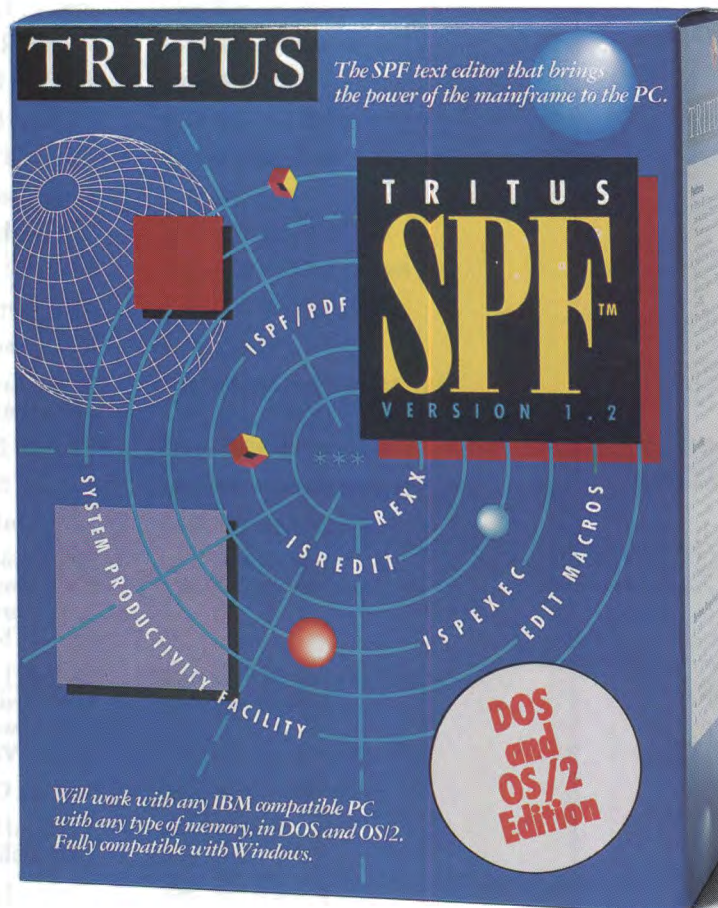
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On to Q4

When the new versions of OS/2 launch next month, many will be surprised. Despite IBM's attempt to impose a news blackout, we've learned that the new versions will be configured very differently from anything speculated on to date in the computer news media—including *OS/2 Week* and *OS/2 Professional*. Features such as one-button installation, hypertext tutorials, emergency do-it options for the confused, dynamic icons, and cursor trails and other relief for mobile users are just the beginning. And IBM will configure its several versions in ways that will expand the user base substantially.

Judging from the beta one reports, the products IBM ships next month will be a big step up from an already solid operating system. Some will say IBM finally has delivered the world class OS people have been waiting for, and one that will function reliably in 4mb. Let's be clear: no one is saying you'll be able to run six programs at once with no slowdown in 4mb. But millions of corporate and personal users chained to their 4mb machines will now be able to multitask and will join the expanding OS/2 community.

IBM is so confident that it says it expects a 45 percent growth in units sold in 1995. To accomplish that, IBM claims—to media, user, and OEM alike—that it will field a powerful Q4 and Q1 advertising program.

We hope that proves to be the case, but we must admit to a few doubts. The same people who have run IBM advertising in the past will be running it for the new launch, including manager Joanne Meleski at PSP. And IBM's new advertising agency has been on the job now for only two months. Sure, O&M has been running at 90 mph trying to get up to speed on the OS/2 market, but that's a learning curve that's a straight vertical. Indeed, as this editorial is being written, just a month away from launch date, neither agency nor Meleski has formulated a complete marketing and advertising strategy.

The results of Meleski's efforts will undoubtedly be seen in the very near future. Lou Gerstner, IBM stockholders, and the OS/2

community are betting the farm—or at least the operating system—that she'll work magic. Whatever comes out of the hat, *OS/2 Professional* will keep you informed.

With this issue we bid farewell to one of our stalwart supporters and contributors, Will Zachmann. Will has been with us since our rollout, offering his always provocative and on-target views of the desktop OS marketplace and the battle between IBM and Microsoft. Brad Kliewer and Alan Kay join me in thanking Will for his good work, and wishing him well.



And now a word about *OS/2 Express*. Following the Bloodhound article in our July issue, *OS/2 Express* was so inundated with calls that we have had to relocate the service to our Minneapolis office and hire additional staff. We have expanded our hours: you can now reach us from 8AM to 8PM central time every workday, and Noon to 5PM on Saturdays. And you can now order from *OS/2 Express* any OS/2 product whether we stock it or not. And we have expanded our reach into Asia and Europe. Last month, we mailed 30,000 reprints of the catalog itself. *OS/2 Professional* is doing its part to support the pro-

liferation of OS/2 applications.

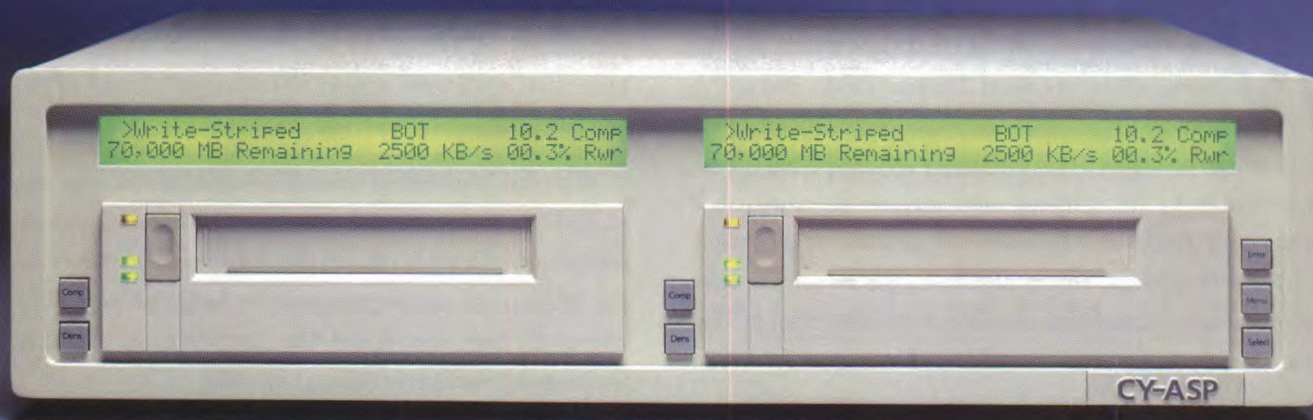
Our goals are simple: We mean to show IBM the power of OS/2—a power that resides both in the operating system and in the native apps it empowers. And we intend to provide thousands of OS/2 users—our readers—with an easy, reliable way to obtain OS/2 products.

We did it with Bloodhound, and now we've added another outstanding IBM product, Ultimedia Mail, which is the subject of our cover story. Once again, IBM displayed little interest in promoting this product, just as it has for other powerful solutions it owns. And once again, *OS/2 Express* will sell it despite the lethargy of IBM.

Because of its growth, we've moved *OS/2 Express* to page 33. Don't miss it. And enjoy the issue.

Edwin Black

At 200 MB Per Minute, We're Setting The Pace.



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Comments, criticisms, and observations

In praise of Bloodhound

Where do I order? *Dead on Arrival* [Special Report, July] was first class. What will it take to get IBM to understand? To them if the product can't generate an instant million it's not worth marketing. Yes, \$285 is a little expensive, but they would be surprised at what a few hundred thousand copies would generate for the company. The side benefits would be immeasurable.

IBM doesn't hunt like the rest of us dogs, they don't run with the pack like they should. They don't know how to share the kill, or even make one any more.

Guy Gubeaux
via the Internet

You can order Bloodhound from OS/2 Express. See page 33.

Thanks for the reminder of why I'd rather have dental work done than try to ferret out someone at IBM who knows something. Your *DOA* article did an excellent job of exposing yet another variety of bureaucratic ineptitude. But you only touched the tip of the iceberg. It would strengthen the exposure if you published the whole list of neglected, barely known or advertised apps.

But the list I'd really like to see is the one of all the OS/2 programs that IBM programmers have written that we never hear of. And then, yes, by all means, send this list to Louis Gerstner with a note, "Dear Lou, have you heard of these programs? We heard your company wrote them for OS/2. Do they work? Are they any good? Why are you hiding them?"

The neglect is too widespread and complete to allow IBM to get away with shrugging it off as just one program that "fell through the cracks."

David Janes
via CompuServe

Your article on the SearchManager/2 debacle proved that not much has changed at IBM. It is appalling to see how good technology and code can just be left to rot in a corner.

While the answers received from the apparent managers of this product were typical of the "old" IBM, I would have thought that, this being the age of Gerstner, we would not have heard the same old song and dance. This story makes one wonder: How many other products and ideas has this happened to?

One would think that IBM would have learned from its past mistakes and inadequacies. I guess it will take articles like this to rock the Armonk frigate.

Chip Daiger
Hockessin, Delaware
via the Internet

Thanks for *DOA*. It is amazing to see how a big bureaucratic corporation like IBM can consistently trip over itself and bog down in endless meetings and planning. Your conclusion for IBM's OS/2 is: market or die.

Operating system power and features appeal to power users and techies, like myself. But the average user (is anyone average?) wants to know what he/she can do. I have an office full of networked PCs to administrate and have yet to have a discussion with anyone in my office about preemptive multitasking, multithreaded processing, or background communications without seeing their eyes glaze over. They just want to know *how* to do it. How to search and replace, how to launch this or that app, how to connect to such and such printer, and most of all: How to make their job easier.

IBM needs to aggressively market the applications, get the public aware, help them discover the need, and tell them that it runs on OS/2.

Tom Honles
Los Angeles, California
via the Internet

Dead on Arrival is one of the best articles I've read in a long time. It really slams IBM for how they handle marketing (of anything) these days. Truly, a scathing indictment.

About the software: if you've needed to use an index-database-building document retrieval program, like the one described, you should try out Search-

Manager/2. It's one of the most impressive types of software around available to the general public.

Rich Ellis
via the Internet

As an OS/2 company, an OS/2 user, and an IBM stockholder, you have my vote to market all of IBM's products. Great job on Bloodhound.

Dianne Taylor
Mobile, Alabama

And IBM's Response is ...

In your July cover feature, *DOA*, you presented an extremely compelling and positive picture of IBM SearchManager/2. We couldn't agree more. However, we believe you took statements by three IBMers, including myself, out of context to further the premise of your article.

The technology in SearchManager/2 is a very significant component of many of IBM's Workgroup Solutions products. As you noted in your article, we moved SearchManager/2 into our Document Management Solutions group. SearchManager/2 is completely contained in our Visual Document Library product announced Feb 17. We plan to extend this important technology to ImagePlus VisualInfo in the near future.

We appreciate your highlighting SearchManager/2's capabilities to your readers.

Jon Prial
Document Solutions Marketing
Somers, New York

Fanfare for Excalibur

Your Bloodhound article should have had a bit more fanfare about the addition of Excalibur's Text Retrieval Server. It's a remarkable, revolutionary piece of work that deserves more than one sentence. Your examples should have included not only the thesaurus functionality, which any old two-bit program can do, but also the fuzzy searching capabilities of the Excalibur system.

What program out there right now can translate "LouxsdisFTqA.Guerst-FFxner" into a hit on a particular docu-

INPUT

ment containing his full name and lesser priority hits on documents containing parts of his name, like "Mr. Gerstner"? That, in my opinion, is the most exciting aspect of the system.

Michael Pelletier
via the Internet

Building their own

Just wanted to compliment you on *Building Your Own* [Special Report, June]. It was very helpful to find a hardware discussion written specifically for the OS/2 environment.

I would have appreciated more detail in your discussion of video cards. As a look at the Usenet groups will confirm, there is a torrent of conversation about cards that may or may not work with OS/2. You selected the ATI card because of its compatibility with 8514/A but there are many other accelerator cards out there that might be faster and/or less expensive. Were they rejected simply

because they did not reliably support OS/2? If not, it would have been useful to know about some of the alternatives.

Ken Huband
via the Internet

Because video provides the key interface to the computer, we preferred a subsystem that would install flawlessly in high-resolution mode. While many video adapters support OS/2 in 1024X768 (or higher) modes, most require a separate installation step. In fact, the ATI Ultra Graphics we selected has native OS/2 drivers which offer better performance than 8514/A compatibility mode. Nevertheless, we have not yet felt the extra installation and support time warrants reconfiguring some 15 systems (a far more important video boost will arrive in the upcoming "Performance" version of OS/2). The true cost of any hardware must be measured not only in terms of purchase price, but ease of support and installation.—Bradley D. Klierwer

I really appreciated *Building Your Own*. It's about time for corporations to realize that building a custom PC is not only less expensive but yields a better value for the end user. However, I would like to know if you considered the Adaptec AHA-2842VL as your SCSI controller?

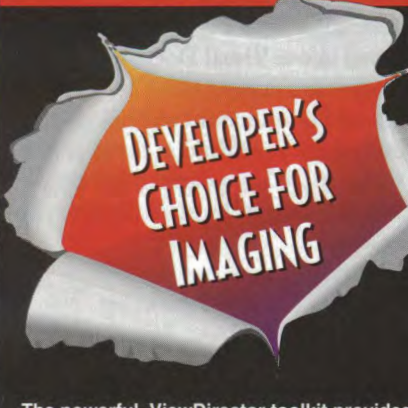
I am currently using this board in a Gateway 2000 local bus 66DX2 and it is a great controller that I would recommend to anyone. It is truly simple to install and setup, which is a good thing since it's next to impossible to get through to Adaptec's technical support.

Kenn Lee
Allen, Texas

At the time we configured our systems, Adaptec had not yet released drivers for the AHA-2842VL (a VLB-based controller).—Bradley D. Klierwer

In *Building Your Own*, there was a men-

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INPUT

tion of busmastering SCSI adapters in ISA based machines and I understood it to say that this could degrade performance in OS/2. Is this because the bus-master takes control of the bus and when another device needs it than it will have to wait? This would make sense in a multitasking environment. Would this still be a problem with VESA Local Bus? I am looking at getting an Adaptec 1542CF or 2842 VL-Bus adapter. Also, why can't the transfer rate be above 5mb on the 1542 as stated in the OS/2 User Guide. Is this the same for the 2842?

Gary Minnick
via the Internet

Most ISA machines cannot handle DMA data transfers between a bus-mastering adapter and memory above 16mb because the DMA channels on the motherboard do not address more than 16mb. Therefore, when you add a DMA-based adapter to an

ISA machine, OS/2 will limit its operations to the lower 16mb (although it will continue to use the memory above 16mb as a swap area).

So long as you avoid DMA-based adapters on the ISA bus itself, OS/2 will make full use of memory above 16mb. With either VLB or PCI SCSI adapters you should not see any performance degradation.—Bradley D. Klierwer

The NT-OS/2 connection

Much of the argument in *The NT-OS/2 Connection* [Connectivity, July] in favor of NTAS makes no sense. So what if it's "scalable"? If you contact LANQuest testing labs, you will discover that NTAS running on Intel machines dies somewhere before it gets to 100 concurrent users. In terms of performance, it gets crushed like a grape by the IBM LAN Server running on the same hardware. Since LANQuest's results are audited and publicly available, it makes

it hard to buy a Microsoft brand manager's statement that they have 800 or 900 users on a dual Pentium NTAS server: logged on, perhaps, but doing real work? It seems doubtful.

If you spend \$50k to scale NTAS up so it can compete with LAN Server, what you have done is drive the cost per user sky high. Whatever advantage by simplicity of integration you may believe you have gained, you have squandered through exorbitant hardware requirements.

With the release of SMP for OS/2, LAN Server for the AS/400, and LAN Server for RS/6000 in beta, it would appear that the theoretical scalability of a product with seriously deficient performance such as NTAS is not such an advantage.

The fact that there are few applications for NT, and that Microsoft still hasn't shipped any of the Hermes man-

continued on page 66



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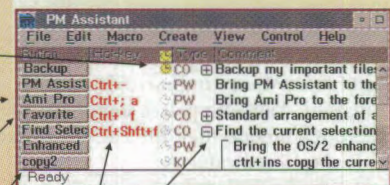
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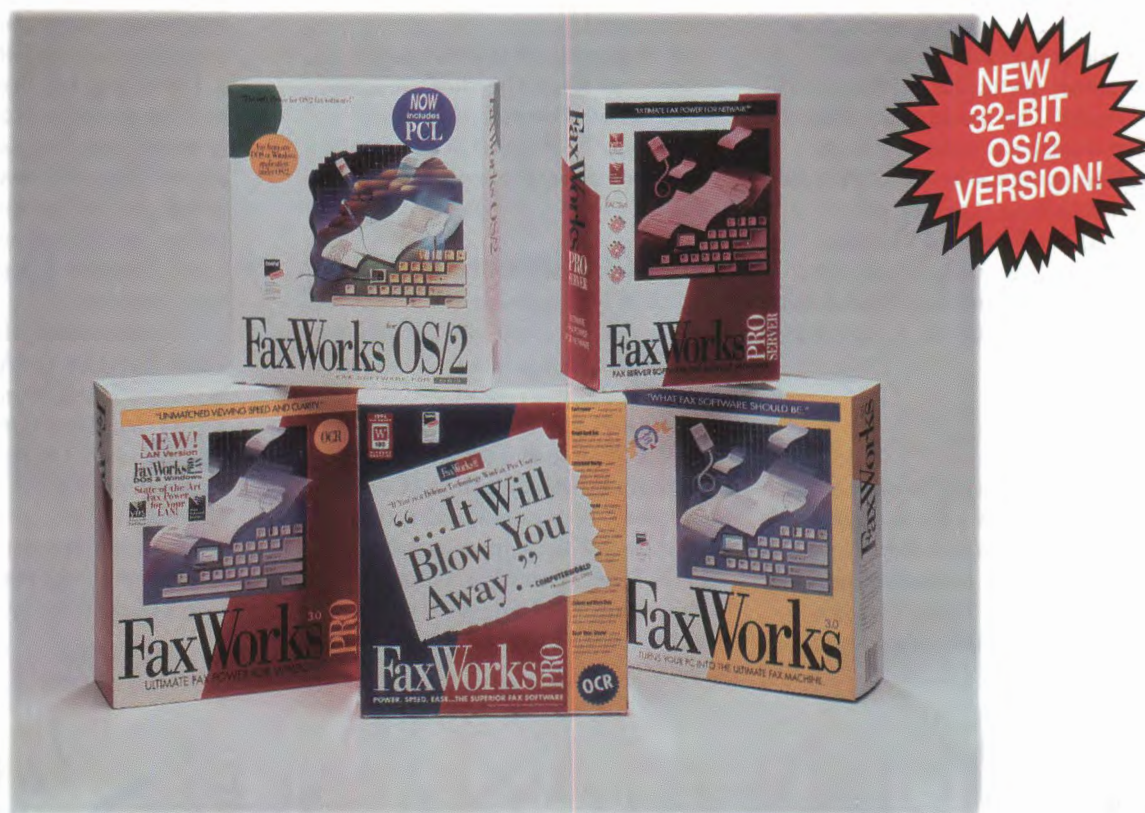
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BYTES & PIECES

News and trivialities, important and obscure

Lou's Summer Vacation

This year's scorching summer was enough to send most anyone scurrying for cover. But one Armonker had matters other than the weather on his mind.

While most of IBM was vacationing, CEO and Chairman Lou Gerstner was busy waging fiscal warfare, doggedly pursuing his RIF (Reduction In Force) quota of 35,000 by year's end.

He began in early July with word that the mainframe plant in Kingston, N.Y., open since the mid-'50s, would be closed by year's end. On the following day, leaked reports that the PC Co. would consolidate its workforce and ship Boca Raton-based staffers to Raleigh, N.C., appeared in print.

Next, buoyed by a good Q2 earnings report, Gerstner took a swipe at the infamous IBM bureaucracy, announcing that certain executive positions would no longer bear the prefix "IBM" before their titles. The designations have long been coveted within IBM not only for the status they confer, but also the six-figure salaries and perks associated with them. Specifically targeted was a select group of some 40 top executives bearing the titles "IBM vice president" and "IBM senior vice president." Pending a review, only those executives with direct corporate responsibility will be able to retain those titles—a move to leave at least one element of the old IBM culture behind.

Finally, Lou did what many knew was imminent. In late July, IBM finally decided to pull the plug on Ambra Computer Corp., its own line of IBM clones. The two-year experiment, geared toward capturing cost-conscious PC buyers who didn't trust the IBM name on a PC, was on the verge of going bust; it will be closed by the end of October. Some 2,000 jobs are expected to be lost.

Lotus gears up for convergence

Lotus Development Corp. likely will implement its Windows-OS/2 "convergence" policy in early 1995. The policy was first disclosed in January when company sources reported Lotus had committed itself to establishing what was described as "parity" between the time a product ships for Windows and when it ships for OS/2. Some reports had that policy kicking in this summer or fall, but a Lotus source told *OS/2 Professional* company plans call for implementing the strategy in 1995.

The question of convergence arose once again in July when Lotus released incremental upgrades to each component of the Windows SmartSuite except Organizer. On the OS/2 side of the aisle, upgrades to the individual components of the SmartSuite for OS/2 and the package as a whole are in the works; a ship date timed to complement the October release of the OS/2 upgrade is planned.

At press time, Lotus was also beta testing Ami Pro 3.0b for OS/2, which it hoped to ship in August.

In another positive sign for Lotus's OS/2 support, veteran OS/2 developer Scott Klinger has joined the Lotus team as senior architect for OS/2. Klinger came from Utah where he worked on WordPerfect's OS/2 development team. Before that, Klinger was a member of the team of IBM developers that designed the Workplace Shell and Presentation Manager for OS/2 2.0. Klinger says that while he is all for parity, what he's really interested in is superiority.

IBM stonewalls on Bloodhound

IBM's response to *OS/2 Professional's* July cover story entitled *DOA*, which detailed how IBM has bungled the marketing of a state of the art OS/2 text-finding application called Search-Manager/2, has been to stonewall. Moreover, the company has been so

unnerved that it now is failing to respond to a number of legitimate market opportunities offered by customers and channels desiring the product.

In a move designed to spotlight both a superior product and a mediocre marketing effort, *OS/2 Professional* renamed the product Bloodhound, commissioned a low-budget ad from a former Ogilvy & Mather art director, and began selling the product for IBM through *OS/2 Express*. In August, 17 copies were sold in a single day. Within the first several weeks, *OS/2 Express* virtually doubled the reported client base, which product insiders say is about 40 companies.

IBM has been less than enthusiastic about capitalizing on the sudden interest in Bloodhound. An IBM executive refused to discuss a 150 copy order from a major pharmaceutical company that contacted *OS/2 Express* so long as the name "Bloodhound" was used. Another corporate inquiry through *OS/2 Express* for a site license for 1,500 copies went unanswered by IBM.

Meanwhile, IBMers worldwide who are associated with Bloodhound and other Software Solutions products for OS/2 quietly hailed the initiative. Requests by IBM offices in Europe to redistribute the article throughout the company are still coming in.

One group of European IBMers called *OS/2 Professional's* advertising office seeking rate information so they could use their own budget to advertise the product.

A key Software Solutions executive in the U.S. commented, "They have learned a very bitter lesson from your article, a valuable lesson. The question is whether they can admit that and can move on to help the product." ♦



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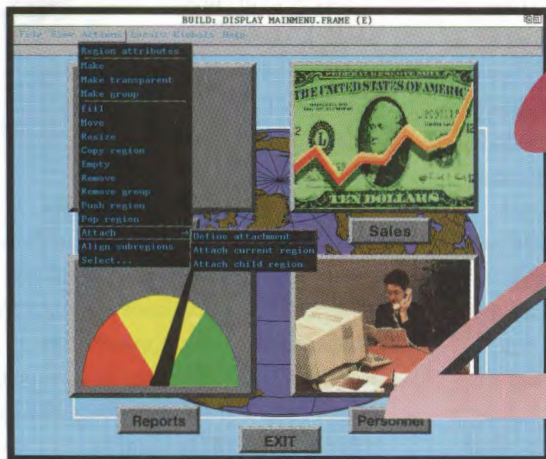
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Clearing the Runway

BY WILLIAM F. ZACHMANN

The next six months or so are likely to be a very critical time for OS/2.

With Chicago delayed well into 1995, IBM has a clear window of opportunity to build momentum for OS/2. On the other hand, unless Chicago turns out to be a total dud (possible but unlikely), that window of opportunity will not stay open forever. Were IBM to fail to take advantage of the present period of opportunity, OS/2's long-term prospects would start to look considerably dimmer.

Think of OS/2 as being like an airplane rolling down the runway. The runway is long but finite. At the end is a row of tall trees. Like an airplane on takeoff, OS/2 must gain sufficient momentum to be able to lift off the runway and get airborne before it runs out of runway. With well over five million copies shipped, OS/2 is getting close to airspeed, but it still isn't quite there yet. IBM needs to push the throttle forward, hard, or risk hitting the trees.

The first thing needed is, of course, a new release of OS/2 that not only delivers on the promises Microsoft has made for Chicago, but that does so before Chicago does and does it better than Chicago, even when Chicago finally ships. The updated version of OS/2 that first appeared late last spring as the "Performance Beta" promises to do that perhaps as early as next month. That it keep that promise is absolutely crucial to OS/2's rush for airspeed.

Second, IBM has to get behind the product with all the weight of the \$60 billion giant that IBM ought to be, with solid commitment to the product from all the divisions of IBM (including the PC Company and the Power Personal Systems Division), and with support commensurate with IBM's need to make the

product a success. Anything short of a total commitment to OS/2 and an all-out effort to make it a major player in the desktop marketplace would be an enormous mistake.

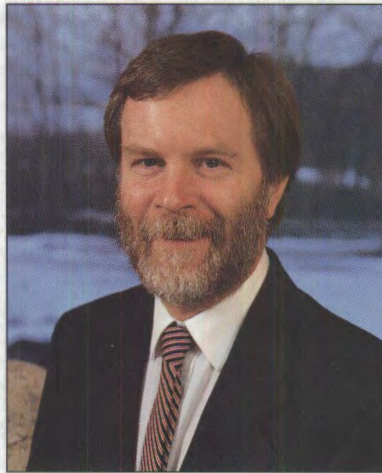
Third, IBM has to do a much better job than it has in the past of gaining commitment and loyalty from other hardware and software vendors and from resellers. That means, among other things, improving the support it provides to and for those vendors. A continuation of the familiar bureaucratic obstacles to doing business with IBM cannot be tolerated any longer—there are too many other companies to turn to.

Finally, IBM has to get the message across to users by way of aggressive advertising, promotion, and pricing. OS/2 needs to ship in much bigger numbers than any we've seen so far if its potential is ever to be realized. IBM needs a greater sense of urgency than has been apparent in the past, and solid, compelling advertising, public relations, promotional, and marketing campaigns that are far beyond the scope of anything we've seen so far.

All these things certainly can be done, should be done—and, I believe, will be done.

If they are done, then OS/2 will handily clear the trees and both OS/2's and IBM's best days will lie ahead of them.

With this column I must, sadly, take my leave of *OS/2 Professional* magazine. With *OS/2 Pro's* upcoming changes in format and approach, the time has come for me to move on. I'd like to take this opportunity, therefore, to thank Edwin Black and all the fine folks at *OS/2 Professional* and to wish them all the very best of success in the future. I will always look back fondly upon my time writing this column and the people I've met here. ♦



SPECIAL REPORT

The sun is oppressive, beating down unforgivingly out of the deep blue sky and bouncing back off the barren landscape. A buzzard floats overhead, forever searching for something to eat. It doesn't take long to understand that life in a desert is tough. There's not much happening.

But you know that the arid environment will give way soon to lush, rolling hills and green trees. The only question is where, and when.

E-MAIL and OS/2: **A BARREN LANDSCAPE**

For the landscape that is OS/2 business tools,
it's starting to look like here and now.

A stylized illustration of a landscape. In the foreground, a cracked, dry earth texture covers the bottom half of the page. Above this, a green field with small bushes leads to a winding river. The river has a pinkish-red hue, suggesting a sunset or sunrise. Several lily pads with pink flowers float on the river. In the background, there are green hills and a sky with a few birds flying.

SHOWS SIGNS OF LIFE

BY KEN MACKIN

If you're a fan of OS/2 and a user of electronic mail, there hasn't been much happening lately—only a few DOS scrub bushes and Windows tumbleweeds dotting the terrain. And that's likely more than a little frustrating, since e-mail is increasingly becoming a strategic tool. At a certain point, the need for the tool outweighs a commitment to an operating environment—particularly if your job is on the line.

E-mail Shangri-La

Generations of data center managers dreamed of the day they could put a PROFS terminal on executive desks. There's a good reason for that: e-mail helps flatten management structures. Inside large companies with electronic communications infrastructures, many of them high tech firms, Andy Grove and Bill Gates are only a few keystrokes away from an entry-level work-

er. And they're easily available for strategic back-and-forth sessions that don't require a conference room, overhead projector, or speakerphone. In fact, the flattening of management is minor compared with the opportunities for productivity and communications that occur when e-mail is mixed with databases to form groupware and workflow applications.

We decided it is time to look at e-mail in the OS/2 world. Covered are IBM's newly evolving e-mail/DCE strategy, that old familiar groupware application Lotus Notes, and WordPerfect's new GroupWise product.

I've Bungled Mail

There was a time when if you used *e-mail* and *IBM* in the same breath, you were talking about PROFS or its stillborn successor, OfficeVision. Mainframe-based PROFS still stands today as a

SPECIAL REPORT

model of how e-mail can empower a company. OfficeVision, the large system equivalent of OS/2's productivity applets, was a great idea—so great, in fact, that every power center in IBM wanted to own it. It would have delivered much of the data- and work-sharing power of today's e-mail platforms. But the IBM of 1987 was not capable of seeing how fast the industry it had created was moving beyond it.

Given IBM's large systems legacy, the company's dearth of applications for local area networks should come as no surprise. It merely reflects Big Blue's long-time strategy of listening mainly to its biggest customers. IBM shops were using mainframes, and that's where development money was spent.

Under intense pressure from the marketplace and Lou Gerstner's bottom-line-oriented leadership, things seem to be changing. The company still sells a lot of mainframes, and unit by unit they're still quite profitable, but no one has the nerve to argue that Big Iron is the key to IBM's future. The glasshouse is only as important as its interaction with local and wide-area distributed networks.

In strategic terms, a subtle shift seems to be underway. IBM's strategy increasingly seems to be focused not on OS/2 or AIX, on PCs or mainframes, but rather on portable applications and environments. That's the meaning behind SOM (the System Object Model) and DCE.

As an example, consider the recently announced LAN Server for AS/400 product, LS/400. The product, which has confused some OS/2 and PC partisans, allows an AS/400 to coexist on a LAN Server network (although one key piece of the functionality, printing, is still missing).

The application, then, is LAN Server; the platform is whatever you want or need it to be. The same model can be seen in IBM's evolving Workplace strategy. IBM—the groggy giant—seems finally to be waking up and discovering that applications are the key to selling platforms.

What's Out There for OS/2?

That strategy is now enriching the e-mail capabilities of the OS/2 workplace. To date, OS/2 has had more success as an e-mail client than as a server. There are only a handful of e-mail servers that run

natively under OS/2 and LAN Server. Until recently, not even IBM offered a "LAN-native" e-mail solution.

On the client side there are a larger number of options, but most of them involve giving up the Workplace Shell to get there. A search on ZiffNet turned up some 50 products from 24 manufacturers claiming some level of OS/2 support. Compared to the DOS/Windows world, though, these pickings are slim.

The company that has done more for the success of OS/2 than just about anybody else has also boosted its e-mail capability. The Lotus Development Corp.'s support stretches from its incorporation of SQL Server and Microsoft OS/2 in the first release of Notes to the mail-enabling of the OS/2 applications in the Lotus SmartSuite.

The heart of a networked or enterprise e-mail system, though, is its engine. On the server side, there currently are three options. IBM is now selling UltiMedia Mail/2. The best-known OS/2-based system is Lotus Notes. And the newest entry is the recently released (and renamed) version of Novell GroupWise (formerly WordPerfect Symmetry).

IBM Multimedia E-mail

In a desert things can change with astonishing speed. In June, some research types from IBM's Yorktown Heights office were trying to get other divisions interested in Ultimedia Mail/2, a Presentation Manager based multimedia e-mail product. But the product marketing team felt it could not go full-bore with Ultimedia because it operated only via TCP/IP and not IBM's proprietary transports.

This was in June—*after* the release of OS/2 for SMP, *after* the start of 4mb OS/2 beta testing, *after* LAN Server for AS/400, and as LAN Server 4 was about to enter beta.

When I tried to obtain information about Ultimedia Mail/2, nobody I spoke with knew about it. When I asked to talk to the developers, the only IBMers offering to track them down were risk-takers from other divisions. IBM had no marketing materials, no strategy it could convey, no product manager—no one to talk it up. The shovels were out, but they were being used to bury the product and put out a small press brush-fire. (Shades of Bloodhound!)

Finally, after some not so subtle pressure, two



**The hype is
justified—
UltiMedia
Mail/2
is hot.**

SPECIAL REPORT

copies showed up—one from Raleigh and another from New York.

I Bring Mail

One month later, all that had changed. They had the product, and now have the strategy. According to a July fax from Brodeur & Partners, IBM PSP's public relations firm, "This fall IBM will roll out a powerful, scalable client/server e-mail solution based on its UltiMail TCP/IP multimedia mail product which will provide customers with a robust and easy to manage backbone mail system."

The hype is justified: UltiMedia Mail/2 is hot. UltiMail will support incoming and outgoing e-mail with multimedia attachments including text, voice, video, and binary text and data files. It integrates with Time and Place, IBM's group calendaring and scheduling product, and Visual Document Library, IBM's enterprise-wide electronic file management library.

UltiMail will support both the Vendor Independent Messaging (VIM) and Messaging API (MAPI) mail standards, meaning it will interoperate with most other PC e-mail applications, including market leaders cc:Mail and Microsoft Mail. The first client environments to be supported will be OS/2 and Windows, with AIX and Mac versions to be added later. The first server environments will be OS/2 and AS/400, with AIX following soon.

UltiMail is a full Presentation Manager GUI application built on the excellent System Object Model architecture. The OS/2 client incorporates object technology in both the interface and the application. In addition, it is REXX-enabled, and REXX can be used to extend the behavior of key UltiMedia Mail/2 events.

An early look at the product turned up few surprises. It is easy to install (as long as you understand TCP/IP), and is obviously built upon SOM—the client interface is a PM drag-and-drop affair.

The mail transport in UltiMedia Mail/2 is SMTP (the Simple Mail Transfer Protocol), a TCP/IP "extension" for bare-bones text transfer, and two additions known as RFC and MIME that provide multimedia support. Any system using MIME will recognize multimedia attachments.

What is most important about UltiMail, though, is that it is a TCP/IP based product. The advantage of using TCP/IP is that UltiMedia Mail/2 can communicate with other RFC clients on TCP/IP networks without using an e-mail gateway.

Politically, TCP/IP must have been a difficult protocol to sup-

port at IBM because so much energy has been expended on IBM's own transport strategies—APPC, APPN, NetBEUI, and others. But it does hold out the hope that IBM networks will talk to the world easily and seamlessly.

Users are smarter today. They are afraid to buy anything that limits their choices down the road, and demand open and standards-based products. Late bloomer though it is, UltiMail could be a show stopper, an award winner. But UltiMedia Mail/2 has import for IBM customers beyond its power as an enterprise enabling application. It signals that Big Blue has finally gotten the message. There is no backward-looking support for SNA, whatever its benefits might be. This entry requires OS/2, TCP/IP, and MMPM/2.



Lotus Notes has stood for the last half-decade as the exemplar of a groupware application.

Lotus Notes

The groupware phenomenon began in the New England offices of Lotus in the mid-1980s. Lotus Notes, a revolutionary and little understood product when it first appeared, has stood for the last half-decade as the exemplar of a groupware application. It gives enterprise users undeniable power to work together on mission critical data and projects. But no MIS today should consider buying Lotus Notes primarily because it will provide e-mail capabilities.

A number of companies have tried to use the Notes system itself as e-mail. It hasn't gone well, for a couple of important reasons. First, Notes is a challenge to install and can be a management nightmare for very large implementations. No large Notes site can function without a number of trained and dedicated IS support staffers. And it's expensive up front (\$495 per node or server). In addition, many desktop machines still do not have the slugging power and RAM reach to support a GUI-intensive app (count on MB before Warp). That's a lot of payback to look for from an e-mail system.

SPECIAL REPORT

Despite the drawbacks, though, Notes can be useful once it is integrated into business operations. Lotus describes it as a client/server platform for developing and deploying groupware

The GroupWise server

delivers

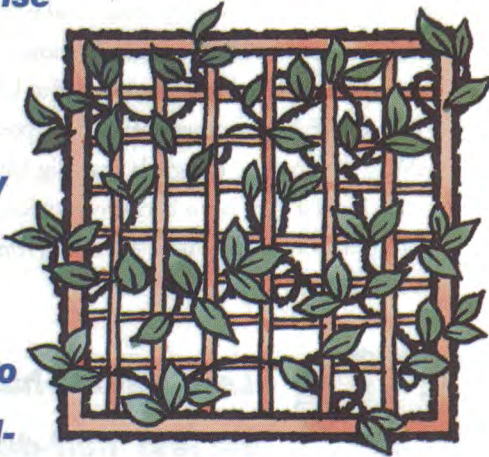
functionality

for clients...

but if you

**don't want to
support WIN-**

OS/2 or Windows, avoid it.



solutions, and it is that. Notes allows you to specify a project and design a groupware database to support it.

Take a political campaign, for example. As the information coordinator and strategist, you can set up a folder containing pictures of the campaign press corps and information on the coverage history and basic philosophy of each. Any authorized person on the staff can look at the record and add his or her own interactions, building a detailed record of interactions with each particular writer. The record can be replicated on a schedule to other Notes servers in other cities to allow local campaign managers to prepare for the reporter in question.

Notes does have a consistent interface across Windows, DOS, OS/2, and Mac platforms. It does include an application development environment. But Notes has a reputation for giving network administrators gray hairs. I spoke with one network manager who, after requesting anonymity, became highly agitated as he described his 99 server Notes set-up and how difficult it was to manage.

NotesMail is clunky and hard to use, but it's functional. An e-mail message in Notes is saved in a Notes database. All of the cool Notes database features like Rich Text are supported. The drawbacks appear when you realize that Notes must *replicate* instead of *ship*. So you need two Notes servers to send e-mail, and you must wait until they replicate databases to get your mail. The e-

mail interface is also nowhere near as powerful as e-mail clients from DaVinci, BeyondMail, Microsoft, or IBM. It forces you to type where other products use a mouse.

If you are moving your organization to Notes, splurge for the Lotus Mail Exchange Facility, an add-in mail server that permits interconnection to cc:Mail mail systems. MHS mail systems can access Notes through the MHS Gateway, but MAPI users are left out in the cold.

Lotus is working on separating the Mail Server from the Notes database, making it possible for IS administrators to use a new version of cc:Mail as a full replacement for NotesMail. Notes users around the globe wait with bated breath for this migration to a layered architecture to become a reality.

Regardless of its problems, Notes is a platform to be reckoned with. A replicating, multiclient e-mail and groupware development platform, it is the enterprise groupware standard by which all others will be judged. And it runs under OS/2.

But don't buy it just for e-mail.

The Word from Provo

Despite themselves, many people are excited about WordPerfect's office suite. (The product has undergone a rapid series of name migrations. It used to be WordPerfect Office, or sometimes PerfectOffice. Then it was reborn as Symmetry—until the owner of that trademark objected. Now it is being marketed as GroupWise—reflecting the new realities, Novell GroupWise.) At PC Expo in June, users were packing the booth to catch a glimpse of the product.

GroupWise contains a cross-platform messaging system with application servers available for DOS, OS/2, Unix, and NetWare. Clients run under Microsoft Windows, Apple Macintosh, DOS, Sun Microsystems' SunOS and Solaris, IBM AIX, Hewlett-Packard UX, SCO Unix, DX, and SRV4 on Intel. (Echoing the market decision the company made about version 6 of its word processor, WordPerfect is not planning on an OS/2 client right now.) WordPerfect also offers remote access clients for Microsoft Windows, Apple Macintosh, and DOS, and asynchronous gateways for DOS, OS/2, OfficeVision/VM, cc:Mail, fax/print, Novell Global MHS, pagers, SMTP, SNADS, telephone access, VMS Mail, X.25, and X.400.

The network-based server interfaces with the GroupWise clients, delivering lots of functionality for a large number of individual clients. This is not truly a NOS independent product, but

SPECIAL REPORT

it certainly comes close. It is protocol independent, and WordPerfect rapidly adapts its portable code to whatever environment it needs to run in.

The GroupWise Microsoft Windows client is a second generation product built upon the solid, if "WordPerfect-like," functionality of the early versions of WordPerfect Office. The legion of WordPerfect law firms and others will recognize a style and functionality that stretches back to the Satellite Software days of 1984. But if you are running lots of OS/2 and don't want to support WIN-OS/2 or Windows on your platforms, you'll want to avoid this product. If you have lots of room to maneuver when it comes to client platforms, this robust and mature office product system will make the grade. It's time somebody bugged the folks in Provo to make an OS/2 client. With the dispersion of its OS/2 development team to the four winds, though (Scott Klinger just arrived in Medford to develop for Lotus), don't count on it.

IBM is in one of the battles that will define its future. The complaint that it has done too little to foster native OS/2 applications for its core enterprise customers has grown into a disability that could prove fatal in the face of the coming Microsoft onslaught.

Blue in Green

While the OS/2 e-mail landscape may have sprouted some green, it needs more Blue. It needs more than IBM Ultimedia Mail/2, and Lotus's SmartSuite and Notes, to provide a welcoming enterprise environment. Ultimedia Mail/2 is a start. But one plant, even a show stopper, doesn't make for a prize garden. Let's see how green a thumb Lou turns out to have. ♦

Ken Mackin, a contributing writer for OS/2 Professional, is president of Product Logic, an Atlanta-based consulting firm. He can be reached on CompuServe at 76004,3626.



PONY EXPRESS E-MAIL

UltiMedia Mail/2, Lotus Notes, or whatever WordPerfect's office suite is called this week may be fine for the large enterprise, but what of the small office environment that according to the analysts is one of the key growth sectors for software vendors?

If you're a very small office—two, three or four PCs, say—you probably haven't been willing to spring for a LAN. And if you're an OS/2 shop, you're likely not running a peer-to-peer network—at least not yet. Where Windows shops can put in place peer connectivity through Windows for Workgroups, OS/2 does not yet provide that functionality.

Peer networking OS/2 code has been in beta test since January, but PSP officials will not say when OS/2 will support peer connectivity as a backbone for local e-mail.

You can set up a basic peer network using the LAN Server

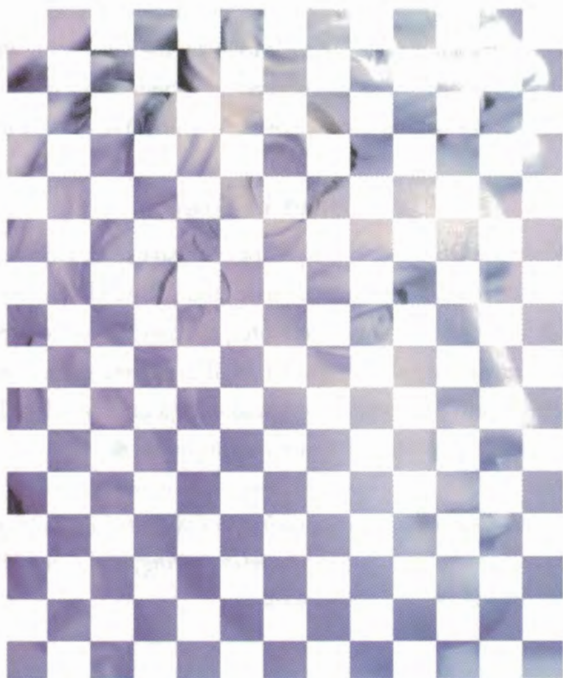
client software. Only one device can be shared under that

setup, but it will support intra-office e-mail.

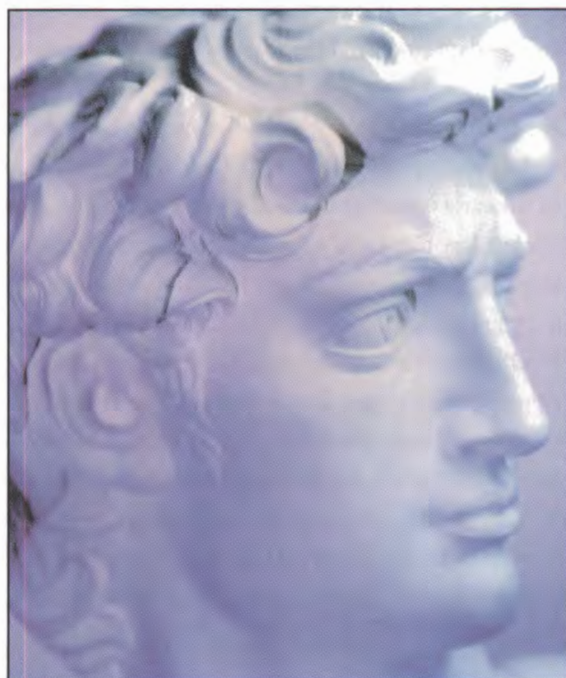
If you need the ability to send and receive messages from other offices or businesses, your best solution is e-mail through a commercial service or a bulletin board that provides Internet connectivity. MCI Mail is a widely used e-mail service for which you pay by the message. Unfortunately, no dedicated OS/2 front end exists for MCI Mail; you'll have to use a general purpose communications program such as Pmcomm or TE/2.

There is an OS/2 front end for CompuServe, Golden Compass, an OS/2-based off-line navigator application that's gotten rave reviews for its successful exploitation of the OS and the Workplace Shell. And CompuServe is about to release an OS/2 version of its CompuServe Information Manager. —Alan S Kay

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whole



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Putting on the Right Face

BY MICHAEL S. KOGAN

Although the recent agreement between the Justice Department and Microsoft gives critics of Microsoft's market hegemony little to cheer about, it does help level the OEM preload market. The Justice Department agreement frees OEMs to preload any operating system the customer wants and pass along the costs of only that system. It also forces Microsoft to abandon long-term contracts that committed OEMs to buy certain volumes of software for years in advance.

With that agreement in place and the impending release of products based on the faster and smaller code previewed in the 4mb OS/2 beta (code-named Warp), OS/2 is in a position to make a serious run at that preload market—and the ball is now squarely in IBM's court. There will be a window of opportunity between the time Warp is available and when Chicago ships. My best guess is that it will last four to five months. But to take advantage of it, Big Blue must quickly do some work on OS/2's product identity and immediately begin an aggressive marketing and advertising campaign.

Product Identity

The product to be marketed is a shiny new one. If you haven't yet played with the Warp beta, let me tell you that it is substantially faster, smaller, and more usable than any previous OS/2 release. Although the name is confusing, the beta is actually OS/2 for Windows based on the new 2.2 code, and it is expected to ship in October. Compared to what Microsoft is promising for Chicago when it is finally released, this OS/2 is faster, does more in less memory, and is superior in multitasking and protection, the cornerstones of reliable computing.

Once again, though, IBM could be its own worst enemy. Windows may offer only a shadow of OS/2's functionality, but it is in consumers' minds a clearly defined product. The same cannot be said for IBM's desktop OS. In fact, IBM spent much of the summer struggling to nail down OS/2's identity. Nonetheless, at this writing, a number of key issues are still up in the air, including

what and how to name upcoming releases, what version numbers (if any) to use (is it 2.2 or 3.0?), and packaging alternatives for the various flavors of OS/2.

IBM has tried several approaches to defining OS/2's product identity. It has been portrayed as a better DOS than DOS and a better Windows than Windows. It is the PC platform that allows integration, provides crash protection, and delivers an object oriented user interface. It is the path to Operating at a Higher Level, and a Chicago that was here two years ago. But none of these

approaches has succeeded in establishing the OS clearly in buyers' minds in the face of the preload-driven Windows onslaught.

The Name Game

The current OS/2 product line consists of four products: OS/2 2.11, OS/2 for Windows, OS/2 for SMP, and OS/2 for PowerPC. In recent months, IBM has talked about releasing three new versions of OS/2, *Personal*, *Professional* and *Enterprise OS/2*, that all use the technology in Warp but bundle different levels of functionality. Although PSP has not spelled out exactly what features will be in these

products, it appears that there will be something for everyone from new PC users to SO/HO businesses to enterprise IS environments.

But will the market *know* that? In making sure that its OS/2 line is fully scalable, IBM runs the risk of missing its last decent shot at competing with Microsoft by confusing its product offerings once again.

I would prefer to see a much simpler and more unified approach to product identity and packaging. Rather than three, or four, or five boxes on the shelf, why not offer a single OS/2 CD-ROM capable of delivering a basic system on the x86 and PowerPC platforms and a wide array of installation options for features like peer (workgroup) networking, client networking, and symmetric multiprocessing?

That in turn will make possible a preload strategy that allows



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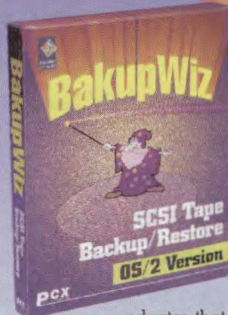
Outlook

Many will argue that the Justice Department's agreement with Microsoft comes too late, since there are already more than 40 million Windows users. But with OS/2 hitting its stride and Chicago still vaporous or in a 1.0 version, many corporations and consumers will give OS/2 another look before determining their future IS strategies. Furthermore, when the costs of migration and the value returned for the two systems are compared, OS/2 is clearly superior.

IBM needs to nail down a cohesive product identity, set in motion an aggressive marketing campaign with the goal of market share at any cost, and negotiate OS/2 preloads on OEM systems (including IBM's) before the official Warp announcement next month.

Come on, IBM: Stop looking out the window of opportunity! Instead, lead the market through it. Make OS/2 the system for *all* of us, not just the system for the rest of us. ◆

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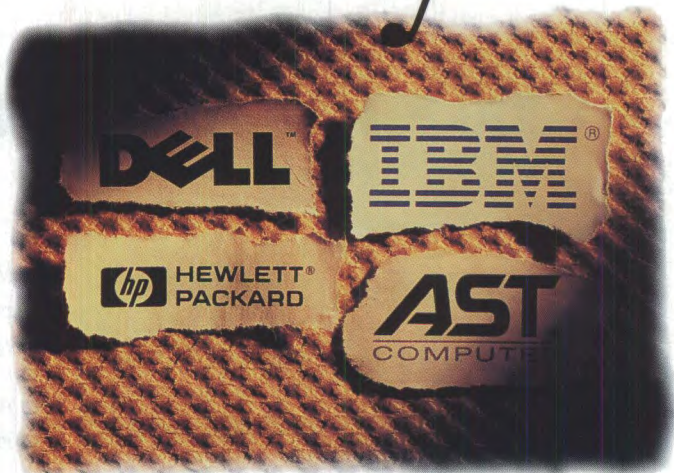
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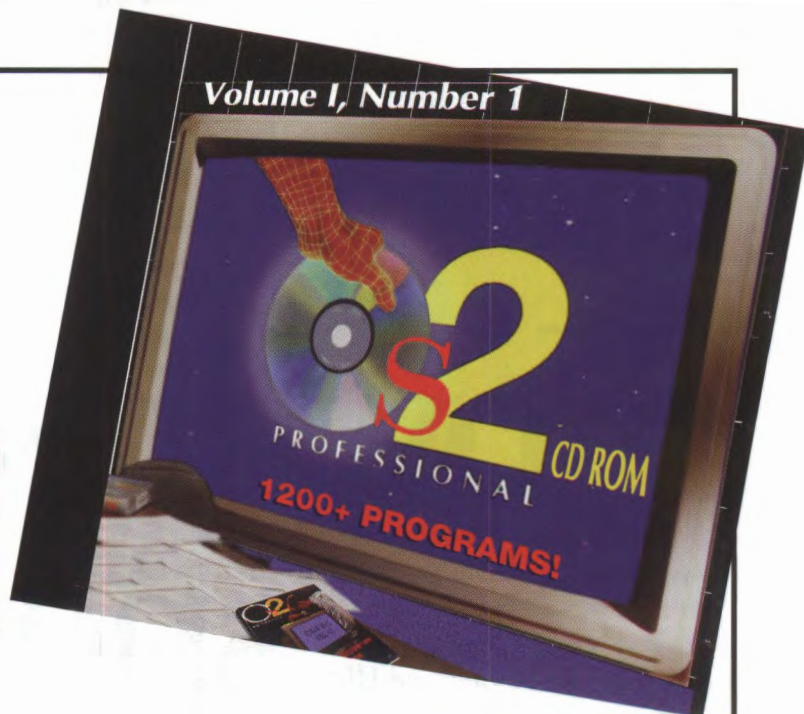
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ALMOST GOLD

As DeScribe Inc. spins its beta into gold, our editor offers a sneak peek at the features that could make or break this native OS/2 word processor.

BY BRADLEY D. KLIEWER

DeScribe 5.0 and the recently released Mesa spreadsheet may be the harbingers of the future OS/2 marketplace. These applications offer the productivity-oriented OS/2 user native alternatives for two key processes, word processing and numbers crunching, for which most users have until now turned to Windows programs.

At this writing DeScribe is selling (rather than freely distributing) the beta code of version 5.0, which company officials describe as very close to gold code. That's reason enough to explore whether users will be getting their money's worth and a jump on the next version of a solid OS/2 app, or simply a pocketful of headaches.

To our surprise, we found the beta remarkably solid. In fact, it was more reliable than Microsoft Word for Windows 6.0, which is used, and regularly crashed, by our circulation department. Although DeScribe 4.0 occasionally crashed in the course of normal operations, the beta versions seem to be more stable. In fact, the only crashes we experienced with DeScribe 5.0a First Look occurred when we attempted some page header operations—a problem DeScribe had already discovered and which a company spokesman says will be fixed in the shipping version. We also ran into some import and .PCX file printing bugs, although the code remained stable throughout the process.

Overall, the DeScribe late beta we tested was sturdier than many programs that ship as finished products—recall, for example, WordPerfect and Lotus's Ami Pro.

Native OS/2 programs have lagged behind their Windows cousins not only in stability but in their features sets as well. DeScribe 4.0, for example, lacked true footnotes, supporting only endnotes. This new version includes features that make it competitive with Winword 6, one of our favorite Windows word processors, and move it well ahead of our corporate standard Microsoft Word for DOS 5.0 (which runs as a native 16-bit OS/2 application when installed in an OS/2 machine). While DeScribe lacks a grammar checker (a feature we do not use) and some minor conveniences (such as the ability to count

the words in a highlighted section) it includes many popular advances in word processing technology. Among the hot new features for 1994, DeScribe automatically inserts true quotation marks and apostrophes around a word or phrase as you type. Another, automatic glossaries, expands abbreviations into full words and can correct typos such as *teh* with a simple transmutation to *the*.

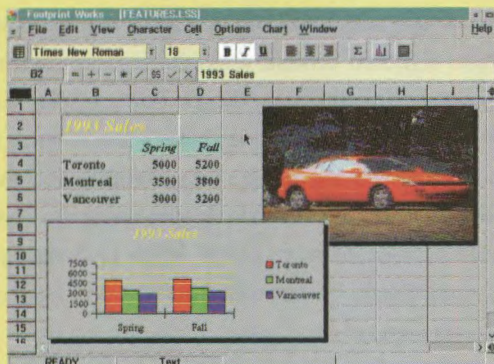
Most importantly, DeScribe takes advantage of the OS/2 environment: long file names, SOM integration, and less obvious features such as named printers (allowing you to ignore the DOS limit of three network printer and fax ports). DeScribe also provides full multithreading, although its effects can appear subtle at first. After working with DOS and Windows word processors for years, habits centered around a single-tasking environment become ingrained and difficult to break. For example, when you print a file do you pause automatically for a few seconds to let it finish spooling? When importing a long, complex document, do you switch to another application to do something else as you wait for the conversion program to finish? With DeScribe, you can fax, print, spell check, import a document—and *still* continue word processing operations.

This multithreading support is unique to the OS/2 and NT versions of DeScribe. Although all three versions (there's a Windows version as well) share a common set of source code files, according to Skip Meier, DeScribe's senior technical support engineer, the source code is loaded with conditional compile (`#ifdef`) statements unique to each environment. In effect, then, each of the three versions uses unique source code. But by keeping similar code in a single file, programmers can synchronize the versions more efficiently. Likewise, many routines use identical code whether the environment is multithreaded or not, and the single source strategy eliminates discrepancies between platforms. For now, the three environments share enough common features that the method works well. As Microsoft continues to change the Windows infrastructure, however, DeScribe programmers may need to revert to independent source files.

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HANDS ON

You can tailor the interface in myriad ways, including renaming menu selections, customizing accelerator keys, and changing the button bar to meet your demands. If those standard features are not enough, you can create custom macros that you assign to accelerator keys and/or buttons, as is standard in high end Windows word processors.

On the down side, the DeScribe user interface still seems awkward compared to other systems. Many features can be tailored, but I spent much more time than I wanted getting DeScribe to a "comfortable" setting. For example, we prefer a view with a 1/4- to 3/8-inch margin to the left of the text. DeScribe's "Auto" zoom setting (which displays text without horizontal scrollbars) leaves only about 1/8-inch, which feels too tight and distracting. Should you prefer a slightly wider left margin you can select a "scaled" view and then set the left margin with the horizontal scroll bar.

DeScribe's frame-based object management should feel familiar to anyone who has worked with a desktop publishing program or frame-based word processor. We found it quite convenient (once we changed the frame border color from a distracting red to a light bluish gray). If you want to add graphics, text sidebars, spreadsheets, or other objects, simply draw the frame and import the appropriate item. Optionally, you can set a DDE link between an object in one application (such as a 1-2-3 graph or spreadsheet) and DeScribe. As the other application updates the object, the changes appear in the DeScribe document. The first time we linked a 1-2-3 graph into DeScribe, we found the process a bit confusing (better documentation would have helped), but easy to replicate and master.

Saving your system settings is also rather different under DeScribe. Many of the settings (such as visible/invisible borders, the presence of rulers, default font and point size, for example), are saved with the document instead of on a global or window basis. To set default views, you must use prototype documents (called *layouts*). It's rather elegant once you get used to it: program editing, letters, memos, etc. each can have unique settings and views. But if you open a document produced using another word processor (such as Microsoft Word), all bets are off—DeScribe picks the defaults for you, and they may be far from what you expect.

DeScribe has some other really slick features. The unlimited undo is implemented far more elegantly than in Microsoft Word. And there are nice touches such as a Words Proper Names menu item that lists all of the proper names used within a document (and lets you replace them in a snap).

There's another issue that defies easy categorization, but which

HANDS ON

must be addressed by any software vendor seeking to enter a mass marketplace. While the CUA standard addresses a number of aspects of the graphical user interface, it does not specify standard icons. We found DeScribe's toolbar icons in large measure incomprehensible. Part of that may be our having succumbed to Redmond brainwashing. But a dragon with a signboard on it? A paragraph symbol (it means "mark a paragraph," not "display markup characters"; that's a button with a half-dozen of those symbols on it)? A page with the numeral 1 on it?

Hopefully, the documentation will improve as much as the program has. The DeScribe 4.0 documentation was inadequate—it lacked decent indexes and cross-referencing and was often terse and difficult to understand. At press time, the DeScribe 5.0 documentation was not yet available. Realizing that programmers typically lack the necessary time, experience, or skills to write decent manuals, DeScribe contracted with QUE to produce the completely revised documentation.

While we found the beta both functional and reliable, we have some concerns about DeScribe's future. DeScribe has been hurt by a weaker than anticipated OS/2 application market. And unlike most cross-platform vendors whose Windows-based products drive the corporate budget, DeScribe derives most of its sales from the OS/2 marketplace. Prospective purchasers need to understand that buying this new version of DeScribe is an investment in the here and now—unlike a major software powerhouse such as Microsoft or the WordPerfect division of Novell, there are no assurances that the company will continue to release annual updates containing the newest technology as part of a market strategy that generates cash by obsoleting last year's product.

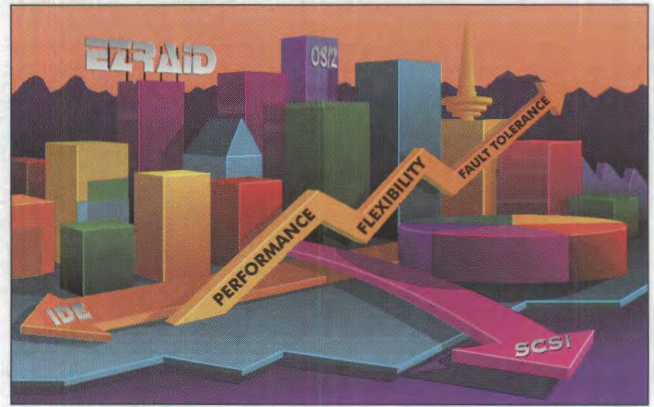
On the other hand, even in beta form DeScribe is a solid product, one we can see using for a while. At some point, software hits a level of maturity where new features simply aren't worth the time or cost. There's no margin in changing to the latest bells-and-whistles software just because it is newer; rather than conveying a productivity gain, it is likely to cost you.

DeScribe's 5.0a First Look already has a maturity that will satisfy many users of a word processing product. Like every other word processor we have tried, it has idiosyncrasies; it also has a few bugs. None, however, is enough to hinder significantly the operations we tried. In its new form, DeScribe should remain a productive platform for years to come. If OS/2, Windows, and NT word processing will fulfill your demands and you can afford an uncertain upgrade future, DeScribe deserves consideration as a new corporate standard. ♦

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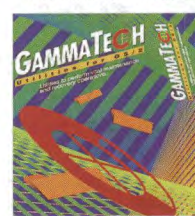
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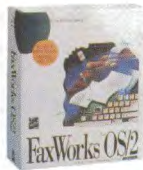
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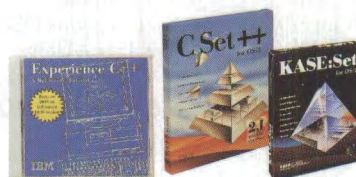
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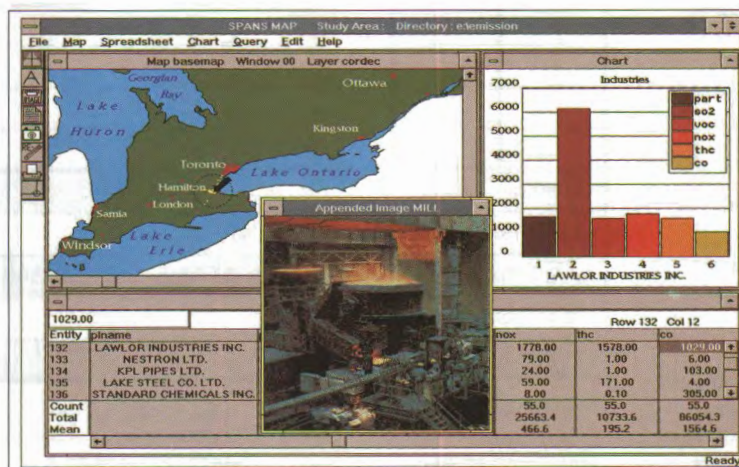


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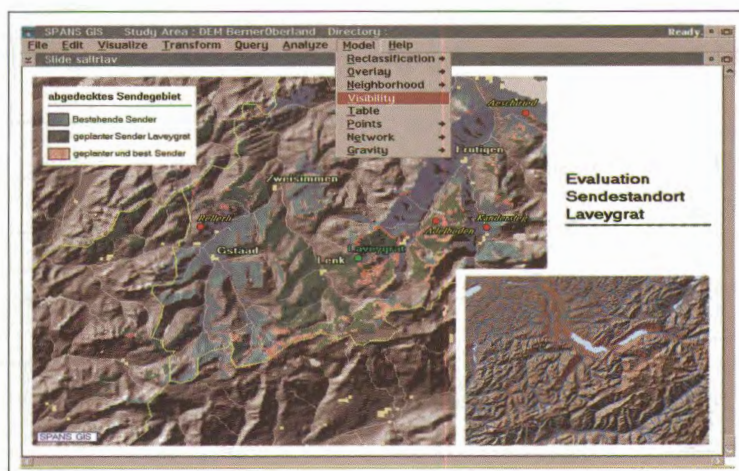
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Lotus 1-2-3 2.1 for OS/2

This 32-bit app requires less memory consumption and is less demanding for users with constrained system resources.

BY HERB TYSON

In early 1993, Lotus 1-2-3 version 2.0 for OS/2 became one of the first major applications released for OS/2. Over the following months, users expressed gratitude that Lotus had kept its feet in the OS/2 waters, but also reported tinges of disappointment with 1-2-3's size and performance. This spring, Lotus addressed those concerns with the release of version 2.1, giving us an opportunity to see where Lotus is going with 1-2-3.

A major concern about many new 32-bit OS/2 applications is the amount of memory they require, an issue we addressed in the April Special Report, *The Unfulfilled Promise of 32-Bit Applications*. Sources contacted for that article told us that over time programmers would become more skilled at coding for OS/2, and we would see reduced memory requirements and increased performance—assertions OS/2 Professional can now put to the test in the case of one major application.

Going Down

In fact, the best news about this new version of 1-2-3 concerns memory consumption. As we've reported [Dot Exe, March/April 1993], 1-2-3 2.0 required four megabytes of memory just to load under OS/2 2.0. With this new version weighing in at three megabytes, 1-2-3 clearly has been put on a diet.

Likewise, OS/2 itself seems to be thinning down. Under the 2.99 Warp "performance" beta, the older 2.0 version of 1-2-3 requires only 2.8mb of memory. Run under the performance beta, the new 2.1 version of 1-2-3 consumes a meager 1.8mb. This is good news for the legions of users who had concluded that 16mb of RAM was the minimum acceptable configuration for running heavy duty OS/2 applications.

The new version also has a smaller disk footprint. The 40 DLL (dynamic link library) files that came with version 2.0 gobbled up just under six megabytes of disk space. The 40 DLL files that come with version 2.1 squeeze in at just over 4.8mb. Looking at those files that have the same names in versions 2.0 and 2.1, the newer files consume fully two megabytes less than the same files did in version

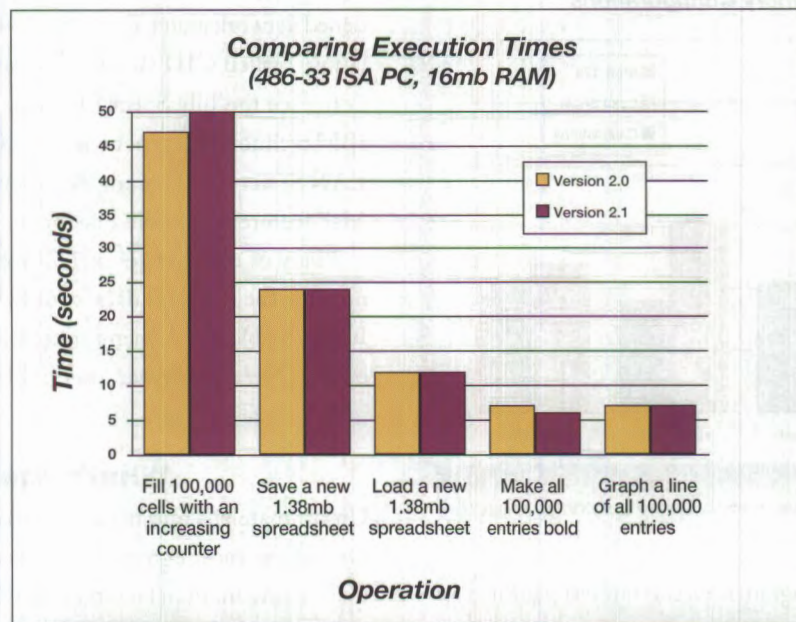


Figure 1. Timing tests comparing operations under 1-2-3 2.0 and 2.1 show few differences.

2.0. If this is a trend, it's a good one!

Not So Fast, Buddy!

A major surprise in 1-2-3 Version 2.1 is that its raw performance on a system with plenty of free RAM hasn't changed much. Most operations have gotten only slightly faster, if they've speeded up at all. However, improvements were made in a constrained environment. As we expected, with the reduction in RAM and mod-

ule sizes, performance improved substantially in an 8mb system due to reduced swapping.

To quantify the differences between versions, we used a 486-33 ISA PC with 16mb of RAM. For one set of speed tests, we used 1-2-3's Data Fill feature to fill 100,000 cells with sequential numbers. We then saved and reloaded the resulting 1.38mb spreadsheet. As shown in Figure 1, the differences are minimal, with the edge sometimes going to the earlier version.

In a second test, we used a benchmark macro that enters two columns of numbers, each from 1 to 30, and then calculates the result of the first number taken to the second as a power (i.e., 1^1 , 2^2 , 3^3 , 4^4 , through 30^{30}). Not surprisingly, in light of our other tests, both versions were very close in speed: version 2.1 took 53 seconds to execute the macro five times, compared to 52 seconds for version 2.0.

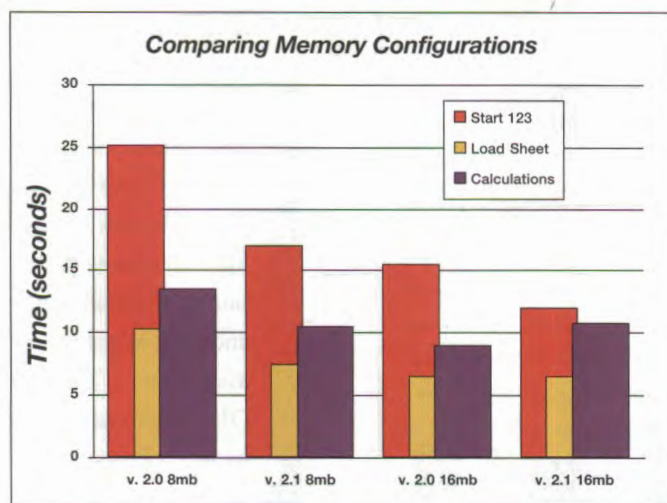


Figure 2: The new version and more memory speed up mortgage calculation procedures.

A mortgage calculation program served as our test platform for comparing performance with different memory configurations. The results shown in Figure 2 compare timings from a variable-rate mortgage analysis program (a macro builds month-by-month comparisons of different rate variances over the life of a 30-year mortgage). Here the newer, leaner version of 1-2-3 shows substantial improvement over its older sibling—an advantage to users making the most of OS/2's multitasking, where free RAM will be at a premium.

Of course, benchmark results reveal only quantifiable differences between the versions. Our testing also uncovered some surprising qualitative differences. While arranging matching row

and column formats (to equalize any display performance differences between versions), we discovered that with version 2.0 a 1024x768 screen displays 38 rows, while version 2.1 accommodates only 30 rows! In both cases, the screen and printer fonts were set to 8 point Helvetica. While the 2.1 presentation is easier on the eyes (the fonts are slightly larger), the net result is a reduction of on-screen data unless you adjust the display font size.

We also found that one test—filling 100,000 cells on top of 100,000 existing cells—that consistently crashed 1-2-3 version 2.0 ran flawlessly under version 2.1. In fact, in all the time I spent testing version 2.1 it never crashed, yet 2.0 crashed regularly—sometimes for no apparent reason. All told, we found 1-2-3 Version 2.1 to be considerably more stable than Version 2.0.

What's New

Outside the reduced RAM cram, Lotus has made very few noticeable changes. One of the few, which comes as a relief to overburdened network managers, is the new response-file network installation. Called CID (Configuration, Installation, and Distribution—see the July Special Report, *Making the Connection*), this IBM technology lets network managers automate installation on LAN Server workstations. Also new for network clients is a Send Mail feature within the File menu.

Many of the changes in 1-2-3 2.1 are purely aesthetic. Most notably, the logo and data icons have changed from version 2.0. If you enable CUA menu options, you will also see new dialog boxes. Overall, however, users will find few substantive changes in 1-2-3's feature set.

What's the Same

Unfortunately, a number of shortcomings remain in version 2.1. One of the most egregious: Lotus still shuns a true IPF (information presentation facility) help system. Rather than use OS/2's highly acclaimed searchable hypertext system, 1-2-3 continues to use Lotus's own markedly inferior help system. Most useful in OS/2's native system is the ability to search for any text within the system. With Lotus's system, you're limited to the categories the developers saw fit to provide. So if you don't speak 1-2-3's language, you're pretty much stuck with navigating through help screen after screen until you find a concept or term that matches your vernacular.

For example, the Worksheet Index offered nary a clue to the location of the newly enabled mail feature. Finally, after checking *How Do I...*, I found the feature—not under *Mail*, but under

DOT EXE

Send. This help system makes learning 1-2-3 difficult for new Lotus users, especially those migrating from Excel, which works rather differently than 1-2-3.

That may be just as well, however, because 1-2-3 for OS/2 Version 2.1 also lacks the ability to import Excel spreadsheets. While writing the review of Version 2.0, we called Lotus to ask whether it planned to add an Excel import feature; we were told it would likely appear in a future version. Apparently, we're not yet far enough into the future. A Lotus spokesperson affirmed that the feature is still missing and still planned, but wouldn't speculate as to an ETA.

Bottom Line

If you already have 1-2-3 version 2.0, you'll certainly want version 2.1. If nothing else, it's less demanding for users with constrained system resources. If you're on a system with just eight megabytes of RAM or have an intensively multitasking workstyle, you will notice performance improvements, particularly when loading Version 2.1 into memory.

If you're an Excel user intrigued by a native-OS/2 program, though, hang onto Excel (in any case, you'll need it to export your old files into something 1-2-3 can read). Perhaps the next time around, Lotus will design a system with stronger appeal not just for its existing installed base, but for the entire Windows universe. Nevertheless, if you hate to see Windows applications bring your multitasking to a crawl, you may find a change to Lotus 1-2-3 for OS/2 worthwhile. ♦

Herb Tyson is a computer industry analyst and consultant whose clients include IBM. He is the author of several books, including Your OS/2 2.1 Consultant, 10 Minute Guide to OS/2 2.1, and the Word for Windows 6 Super Book. He can be reached on CompuServe at 72520.1054.

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Lotus 1-2-3 2.1

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MultiMaint

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BY BRADLEY D. KLIEWER

Every once in a while someone develops one of those little life-saving utilities that you simply *must* have on your system. One such program is MultiMaint, the latest in a series of ever improving utility packages from Carry Associates (IniMaint and SysMaint are its precursors).

By far the most important (and unique) feature of the family is the .INI file repair option. There may be times when you have good reason to suspect that the .INI files are corrupt. For example, I used Repair after a botched re-installation of OS/2 over a corrupted boot drive. I was hoping that the .INI files would come through undamaged. At first, OS/2 *appeared* to work properly. However, the system would mysteriously crash on a regular basis.

This seemed like an ideal opportunity to test MultiMaint. Not surprisingly, Repair detected errors—by the hundreds—which I then told MultiMaint to fix. I should note that I would not proceed with fixes to these critical files without a complete backup on hand. I lost a few icon settings in the process, but my system was back to normal (nearly crash-free) operation, thereafter.

Admittedly, a program that makes .INI file changes could be hazardous in the hands of some end users. Should you prefer a safety net for your departmental maintenance operations while encouraging users to monitor for potential problems before they become severe, Carry Associates includes a “safe” version that will check for problems without changing the .INI files.

In addition to fixing serious .INI file problems that can lead to system crashes, MultiMaint will clean up some of those pesky little problems that seem to appear from time to time—disconnected network objects that will not go away, obsolete printer icons, and the like. In several cases, MultiMaint has spotted problems before we noticed any symptoms.

Curiously, as central as Repair is to MultiMaint's utility, it is hidden within a clutter of menus and options. In fact, the menus are so cluttered (and the documentation so poorly organized) that learning the program becomes a very intimidating process, if not downright scary. The documentation really needs a “How Do I?” section for users, as well as improved clarity. Until the documentation improves, you will need a competent OS/2 support person to establish usage procedures for your users.

For the technically inclined and truly daring, MultiMaint lets you edit any OS/2 .INI files (including the system and user files). In fact, the first thing you see upon loading the program is a hierarchical view of the .INI file contents (with a binary view of the key data). If tweaking your .INI files doesn't sate your appetite for thrills and chills, you may load and edit any file's and/or directory's extended attributes.

At a more utilitarian level, MultiMaint will back up and restore your OS/2 desktop in either a “snapshot” or “portable” format. The snapshot backup will restore only to the originating (or identically configured) machine. Furthermore, the snapshot format will not cross OS/2 versions (e.g. you cannot restore an OS/2 2.0 desktop after upgrading to OS/2 2.1). With the portable format, however, you may restore desktop objects across OS/2 versions, to another machine, or select individual objects to copy between systems.

SysMaint, which lacks the portable desktop backup, provides a more economical alternative if you already have a desktop backup program. The next step down, IniMaint, economizes too much for my taste, however. Among other things, it lacks the backup features, extended attribute editing, and “safe” versions. (It's also widely available as shareware if you'd like to give it a test drive and get a feel for the menu structure of its more robust cousins.)

MultiMaint includes plenty of bells and whistles. Unfortunately, the basic functions tend to get lost in the noise. The program would benefit from an overhaul of both the user interface and the documentation.

Nevertheless, once you master the basics it is quite useful. For the serious OS/2 user, and particularly the corporate support department, MultiMaint and its kin provide an indispensable adjunct to your system utility tool kit. ♦

AT A GLANCE

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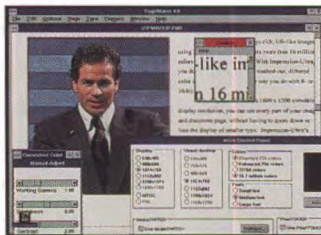
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MARKETLINE

Product News for the OS/2 User

SCOOPS

New 4mb OS/2 will come with Footprint suite, CIM

Toronto-based Footprint Software is close to signing a deal with IBM to bundle Footprint's applications suite with IBM's new 4mb OS/2, which is due out next month.

The suite consists of 10 productivity applets derived from existing OS/2 software. Included are fax/communications software, PIM-based scheduling, and a spreadsheet. IBM has been marketing the same suite in Europe as IBM Works since last year.

Negotiations for the deal began in earnest following the PSP Technical Interchange in

San Francisco, according to a source close to the deal. Under the terms of the agreement, IBM acquires all rights to market the product, but Footprint will retain responsibility for development.

Sources indicate that IBM wants to include the suite in subsequent releases of OS/2 as well.

IBM will also provide CompuServe connectivity along with the gold code. As we went to press, IBM was on the verge of announcing an agreement to bundle a new OS/2 version of the Com-

puServe Information Manager (CIM) with the forthcoming release of OS/2, as first disclosed by *OS/2 Week*.

CIM for OS/2, developed by CompuServe's in-house development team, was chosen by IBM because it enables users to get to know the service interactively, a process that is more difficult with OS/2-based off-line navigators such as Creative Systems Programming's Golden ComPass. Responding to rumors of the IBM-CompuServe deal, talk on the boards has been critical of IBM's decision not to bun-

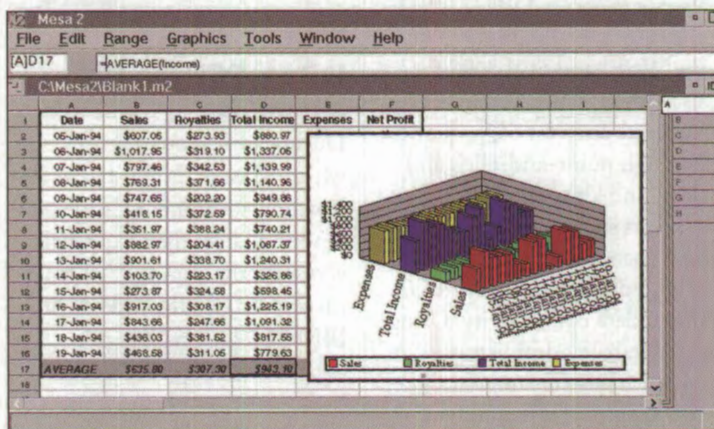
dle Golden ComPass, with some OS/2 partisans describing the deal as yet another example of Big Blue undercutting the small OS/2 ISVs that are some of its staunchest supporters. "We approached them two years ago," said a frustrated GSP President Larry Finkelstein, "and they told us that we were not strategic."

"I didn't consider recommending it," said one IBMer referring to GCP, "because it's harder to learn than CIM. Once someone has learned CompuServe, then GCP makes sense."

New Products

OS/2 spreadsheet will ship shortly

Athena Design, Inc. is now taking orders for Mesa 2, its object oriented spreadsheet for OS/2. The application was originally due out last month, but the company now plans to start shipping it by month's end. Mesa 2 is a 32-bit, multi-threaded spreadsheet that can import Lotus 1-2-3, Microsoft Excel, and delimited ASCII files. It is CUA compliant with full drag-and-drop capability, will support the OpenDoc standard when it becomes available, and fea-



The Mesa 2 spreadsheet for OS/2 will feature advanced object technology, multi-threaded 3-D work books, and 2-D and 3-D graphs and charts.

tures 2- and 3-D graphing. It ships with several tools for

designing and maintaining workbooks. The Formula

Inheritance feature, for example, enables users to dynamically link cells—when a formula is changed in one cell, all linked cells inherit the new formula. SmartFill allows users to generate sequences of numbers, days, or months that will update whenever the main cell changes. Mesa 2 will sell for \$199, but is being offered for three months at an introductory price of \$99.

An enterprise version is also planned. Athena Design, Inc., 17 St. Mary's Court, Boston, MA 02146. (617) 734-6372, fax (617) 734-1130.

New IPF authoring tool

TSC Computing, Inc. is now shipping IPFIDE version 1.0, a development environment for writing, editing, compiling, and testing on-line documentation source code for OS/2's Information Presentation Facility (IPF). The product contains a tag language, a "Compile" feature and a "Run" option that displays code as it would appear in an application. IPFIDE is compatible with OS/2 2.1 and later and retails for \$49. TSC Computing, Inc., P.O. Box 16067, Fort Worth, TX 76162. (817) 263-5766, CompuServe 71331,2306.

An ACE in the hole

Best Data Products, Inc. has released its Advanced Communication Enhancement System (ACE), an internal



card that combines fax, sound, and telephone answering capabilities with a 14.4kbps modem and CD-ROM drive support. The four-in-one card uses IBM's MWave DSP technology, and is geared toward the small office/home office user seeking to save space on a crowded motherboard. The board features 14.4kbps fax with fax back and fax forward capability and a 16-bit audio board with wave table synthesis and up to

44kHz sample rates. It also includes external stereo jacks for microphone, audio in/out and speakers, telephone line jacks and Panasonic CD-ROM drive support for audio compact disks. The product requires a 386 or later chip, 8mb of RAM, and OS/2 2.0 or later or Windows 3.1. Suggested retail price is under \$300. Best Data Products, Inc., 21800 Nordhoff St., Chatsworth, CA 91311. (818) 773-9600, fax (818) 773-9619.

VX•REXX upgrade available as Client/Server Edition

Watcom International has released VX•REXX version 2.1, an upgrade to its visual application-building tool for OS/2 that is also available in an optional Client/Server Edition that supports client/server application development by incorporating database objects. The client/server product offers new connection, query, and charting objects that enable users to access multiple databases, manipulate data, and chart results. With DDOS/2 and the DRDA protocol, users can access DB2/2, DB2 for MVS, SQL/DS for VM and VSE, and SQL/400 for OS/400. Users can visually generate and test SQL queries through point-and-click and drag-and-drop procedures. Objects such as entry fields and push buttons can be bound directly to a record for direct data connectivity. Using the database administrator, users can also create new databases, define tables, and set column types and relationships. The product includes more than a dozen chart types and more than 150 display options, drag-and-drop pro-

gramming, and run-time support. VX•REXX 2.1 sells for \$99, and the Client/Server Edition is available for \$299 (existing VX•REXX users can upgrade to the Client/Server Edition for \$199). Watcom International, 415 Phillip St., Waterloo, Ontario N2L3X2, Canada. (519) 886-3700, fax (519) 747-4971.

Quantum Leap solves problems

Quantum Development Corp., is offering Quantum Leap for OS/2 2.1, a problem solving application designed for asset management, budgeting, cash-flow planning, scheduling, and a variety of management tasks. The product supports OS/2 for SMP, and includes APIs enabling users to embed various Quantum Leap models into their own work. The company also markets the APIs as part of a separate package for developers called Quantum Craft, a bundle that includes training and consulting services. Quantum Leap is priced at

\$990 for both client and server, and Quantum Craft starts at \$29,900. Quantum Development Corp., P.O. Box 970, 2700 Philadelphia Pike, Claymont, DE 19703. (302) 798-0899, fax (302) 798-6813.

SCSI controller supports OS/2

Future Domain Corp. has released the TMC-1610MCD, a low-cost 16-bit SCSI controller package for CD-ROM drives. The kit contains PowerSCSI software, which provides a universal application interface, hard disk support, and CD-ROM drivers that support Photo-CD. It also includes a cable, documentation, and a Novell CD-ROM NLM for NetWare 3.11, 3.12, and 4.0 that enables file servers to use multiple CD-ROM devices. The SCSI controller supports OS/2, DOS/Windows, Novell NetWare, Unix, and NT, and sells for \$85. Future Domain Corp., 2801 McGaw Ave., Irvine, CA 92714. (714) 253-0400, fax (714) 253-0913.

News

Lotus, PSP ink Danish deals

During a fiscal quarter for which Massachusetts-based Lotus Development Corp. reported lower than expected earnings, the company's Danish division quietly worked with IBM PSP Denmark to put together two big OS/2 deals.

According to Lotus Denmark officials, the company in late June received one of its largest SmartSuite orders ever, delivering 7,500 copies of the SmartSuite for OS/2 to a

Danish banking cooperative. The deal, worth an estimated \$2 million, was brokered by FinansSupport, a systems integrator based in Denmark, and is part of a move by the banking industry there to standardize on OS/2 while making the switch from dedicated terminals to a networked environment. "It's big OS/2 country here," says Morten Lorensen, a marketing executive with Lotus Denmark.

The deal, which also involved the purchase of an

MARKETLINE

equal number of OS/2 licenses, will require a massive training effort to bring some 8,000 financial staffers up to speed on OS/2. Separately, a second deal worth about \$1 million with NyKredit, a Danish-based real estate firm, involves 1,200 OS/2 licenses and copies of SmartSuite.

Lennane sets mid-September deadline for DeScribe

Jim Lennane has hurled down the gauntlet, challenging the OS/2 marketplace to keep his company alive by buying 1,000 copies of DeScribe 5.0 by the middle of this month.

Lennane confirmed a Sacramento Bee report that he has drawn a line in mid-September by which the new

product must have proven itself. Lennane said he has lost \$10 million on the company since he founded it in 1988. "No one is gleaming a reasonable living from the OS/2 market," Lennane says; "If they are, I haven't seen it."

Yet recent coverage by the computer press seems to have spurred interest and at press time, Lennane was filling orders to help DeScribe's in-house sales force. Regardless, Lennane will stay on board with OS/2 as he turns his attention to development of a spreadsheet, work on which has temporarily taken Lennane back to California.

And now, TeamISV

Taking a page from the OS/2 Vendor Council's play-

book, John Urbaniak, president of Pittsburgh-based Aviar, Inc., is currently exploring the possibility of uniting OS/2 ISVs. The tentative name for the new group is TeamISV.

"It was suggested that I try to present a unified front to IBM about ISV concerns," says Urbaniak, whose efforts to rewrite a DOS application foundered because of what he describes as prohibitive pricing for run-time versions of IBM's development tools.

The conversation that gave birth to the TeamISV idea began on CompuServe's Canopus forum as a debate about IBM's bundling of a new OS/2 on-line front end, rather than Golden ComPass, with OS/2.

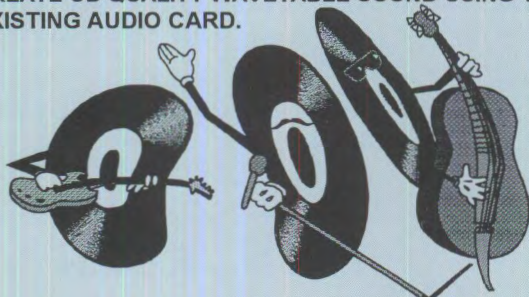
Campaign successful

OS/2 Professional has announced that the program it began in January to convert its readership from controlled to substantially paid is a success. The magazine's Q4 distribution will be between 60,000 and 70,000, including paid subscriptions, newsstand sales, and bulk corporate and group subscriptions.

"Newsstand sell-throughs are currently excellent, and in many places in excess of 60 percent—very high for the industry," according to *OS/2 Professional* Publisher Edwin Black, and the magazine's subscription programs are yielding strong four-digit monthly totals. ♦

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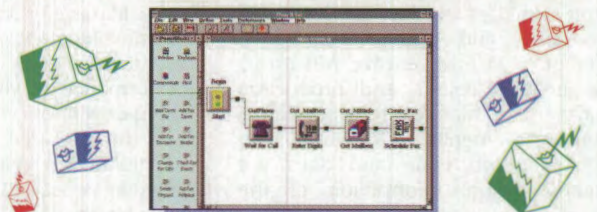
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OS/2 Inter-Process Communication

More Pipes

BY CAREY GREGORY

In last month's overview of named and anonymous pipes I was forced by space limitations to ignore a very significant feature of OS/2's named pipe API. The examples in the previous installment showed how anonymous pipes allow two threads on a single machine to communicate, and how named pipes allow two threads on the same or different machines to communicate. Named pipes have yet another feature: multiple instances of a single pipe.

Although the multiple instance single pipe may at first glance seem like a less than earth-shattering notion, it significantly aids client/server application development.

If you intend to develop a server program that will service multiple clients concurrently, a named pipe with only a single instance presents a difficult problem. OS/2 is quite capable of supporting a multiple-client server—but with only a single connection available, your program cannot service more than one client at a time.

The OS/2 named pipe API solves this problem by allowing your program to create multiple instances of a single pipe. Each instance behaves as if it were a separate, unrelated pipe, but all share the same name. Therefore, the client application sees only one name so that the client need not be aware that more than a single instance exists.

Unfortunately but unavoidably, things are not so transparent for the server program. It must manage the multiple instances, which requires a fair amount of code. Listing 1 demonstrates a very simple server program that supports multiple instances of a named pipe.

When a program creates multiple instances of a named pipe, there are two basic ways to manage the pipe. In the first method a single thread handles all instances by serializing transactions. The second method uses a separate thread to manage each instance, with each thread treating the pipe as if it were the only instance. Since the programming techniques for pipe transactions using the second method differ very little from a single-instance design, I've elected to demonstrate the first technique in Listing 1, allowing us to avoid the potentially obfuscating details of thread management in the sample program.

LISTING 1

SERVER.CPP

```
#define INCL_DOS
#define INCL_DOSERRORS

#include <os2.h>
#include <stdio.h>
#include <string.h>

#define PIPEMODE (NP_NOWAIT | NP_READMODE_BYTE |
NP_TYPE_BYTE | 5)

int main(int argc, char **argv)
{
    APIRET      rc;
    HPIPE       hPipe[5];
    char *      PipeName = "\\pipe\\example.pipe";
    ULONG       Instance,
                Length,
                Count;
    HEV         hsemPipe;
    PIPESEMSTATE SemState[5];
    char        Buff[1024];

    if (argc > 1)
        PipeName = argv[1];

    // create an event semaphore
    DosCreateEventSem("\\sem32\\example.sem", &hsemPipe, 0,
        FALSE);

    // create 5 instances of a duplex pipe
    for (int i = 0; i < 5; i++)
    {
        DosCreateNPipe(PipeName, // pipe name
            &hPipe[i], // handle
            NP_ACCESS_DUPLEX, // access mode
            PIPEMODE, // options
            1024, // output buffer size
            1024, // no input buffer
            0); // default timeout (50ms)

        // attach an identifier to the instance & put it in
        // listening state

        DosSetNPipeSem(hPipe[i], (HSEM)hsemPipe, i);
        DosConnectNPipe(hPipe[i]);
    }
}
```


CODE CACHE

```
while (TRUE)
{
    // wait for something to happen

    DosWaitEventSem(hsemPipe, SEM_INDEFINITE_WAIT);
    DosResetEventSem(hsemPipe, &Count);

    // find out what happened

    if (DosQueryNPipeSemState((HSEM)hsemPipe, SemState,
        sizeof(SemState)))
        continue;

    // examine the array of event records

    for (i = 0; SemState[i].fStatus != NPSS_EOI; i++)
    {
        Instance = SemState[i].usKey;

        // what happened?
        switch (SemState[i].fStatus)
        {
            // write space available-tell the client to exit

            case NPSS_WSPACE:
                printf("Write space available on instance
                %u\n", Instance);
                DosWrite(hPipe[Instance], "exit",
```

The server program begins by creating an event semaphore. OS/2 uses this semaphore to notify the program when events occur on the pipe. After creating the semaphore, the program enters a loop that creates five instances of the named pipe. The first call to `DosCreateNPipe()` specifies how many instances of the pipe may be created—the constraint may specify a value from 1 to 255, or -1, which allows an unlimited number of instances. This constraint is set through the `PIPEMODE` parameter. Each subsequent call to `DosCreateNPipe()` using the original name creates a new instance of the pipe and returns a unique handle (which the program stores in an array). Note that only the first call to `DosCreateNPipe()` sets the options and instance count. Each subsequent instance inherits the same properties.

After creating the pipe instance, the server program calls `DosSetNPipeSem()` to associate the event semaphore with the instance. This function also allows us to assign an identifier to the instance (the identifier can be any 32-bit value). In this example, I've simply used the



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array index as an identifier.

Another good candidate for an identifier is the pipe's own instance handle. Using the instance handle makes it readily available without access to an array of handles (a useful solution if lower level functions will need access to the pipe but you prefer to avoid global or class variables). After assigning the semaphore and identifier to each instance of the pipe, `DosConnectNPipe()` puts the pipe into a listening state (without this call, clients will not be able to connect to the pipe).

In the next phase of the program, the server enters an infinite loop to manage client requests. In the real world you would probably provide some type of shutdown mechanism here, but for our purposes control-C works adequately. The first step in the loop is a call to `DosWaitEventSem()`. When an event occurs on any instance of the pipe, OS/2 will post this semaphore. Note that the program immediately resets the semaphore, an important step that prevents missed events in the interim. The call to `DosQueryNPipeSemState()` reports which events occurred on the pipe. This information is returned in a

```
sizeof("exit"), &Length);
break;

// data available to read

case NPSS_RDATA:
    printf("Data available on instance %u\n",
        Instance);
    rc=DosRead(hPipe[Instance], Buff,
        sizeof(Buff), &Length);
    if (rc && rc != ERROR_MORE_DATA)
        break;

    // print the input

    if (Length)
        printf("Read %u bytes: %s\n", Length,
            Buff);
    break;

// client closed the pipe - reset it

case NPSS_CLOSE:
    printf("Client closed instance %u\n",
        Instance);
    DosDisconnectNPipe(hPipe[Instance]);
    DosConnectNPipe(hPipe[Instance]);
    break;
```

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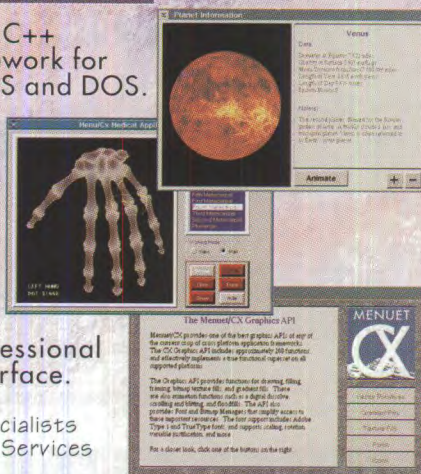
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CODE CACHE

```

        default:
            printf("Unknown event on instance %u\n",
                Instance);
            break;
    }
}

for (i = 0; i < 5; i++)
    DosClose(hPipe[i]);

return (0);
}

```

LISTING 2

CLIENT.CPP

```

#define INCL_DOS
#define INCL_DOSERRORS

#include <os2.h>
#include <stdio.h>
#include <string.h>

int main(int argc, char **argv)
{
    APIRET rc;

```

PIPESEMSTATE struct, which looks like this:

```

typedef struct _PIPESEMSTATE
{
    BYTE    fStatus;
    BYTE    fFlag;
    USHORT  Key;
    USHORT  Avail;
} PIPESEMSTATE;

```

Remember, this pipe has multiple instances and multiple events may occur simultaneously. To avoid problems, the program should use an array of PIPESEMSTATE structs with an entry for each instance whenever practicable. If your program manages a large or unlimited number of instances, it may be necessary to dynamically allocate and resize this array.

Each entry in the array describes an event on one of the pipe instances. The instance is identified by the usKey element, which will be the identifier your program assigned in the DosSetNPipeSem() function. The array should be traversed sequentially until an entry is found with the fStatus field set to NPSS_EOI, which indicates

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CODE CACHE

the end of the array. The other possible values for fStatus and their meanings are as follows:

NPSS_WSPACE. This value indicates that write space is available in the pipe instance, and that a client has posted a read to the pipe. In general, your program would be concerned with this indicator only if it is writing more data per call than will fit in the pipe buffer or if clients request data simply by reading the pipe. The Avail element contains the number of bytes of space available.

NPSS_RDATA. This value signals that a client has written data to the pipe. The Avail element contains the number of bytes of data available for reading. As is the case with any pipe, the program reads data using DosRead(). You should be aware that if DosRead() returns a length of zero bytes, the client has terminated its connection to the pipe.

NPSS_CLOSE. This indicates that the client has closed its end of the pipe. This event necessitates two further steps. First, the server program must call DosDisconnectNPipe() to acknowledge the termination. If it fails to do so, the next attempt to access the pipe will

```
int      i;
HPIPE    hPipe = 0;
char     *PipeName = "\\pipe\\example.pipe";
char     Buffer[256];
ULONG    Length;
ULONG    Action;

if (argc > 1)
    PipeName = argv[1];

//wait up to 30 seconds for the pipe to become available
for (i = 0; !hPipe && i < 30; i++)
{
    rc = DosOpen(PipeName,
                 &hPipe,
                 &Action,
                 0L,
                 FILE_NORMAL,
                 OPEN_ACTION_OPEN_IF_EXISTS,
                 OPEN_ACCESS_READWRITE |
                 OPEN_SHARE_DENYNONE,
                 0L);

    if (rc)
    {
        // if the pipe doesn't exist, wait 1 second and
        try again
    }
}
```

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```
// if the pipe is busy, wait up to 30 seconds for
a connection

if(rc == ERROR_PATH_NOT_FOUND)
    DosSleep(1000);
else if(rc == ERROR_PIPE_BUSY)
{
    if ((rc = DosWaitNPipe(PipeName, 30000-(i *
        1000))))
        break;
}
else
    break;
}
}
if (rc)
{
    printf("Unable to open pipe %s due to error %u.\n",
        PipeName, rc);
    return (rc);
}

// say hello to the server

DosWrite(hPipe, "hello", sizeof("hello"), &Length);

// read the pipe as long as there's data - stop if "exit"
is received
```

result in a `ERROR_BROKEN_PIPE` return code. Second, the server calls `DosConnectNPipe()` again (to put the instance back into a listening state). This allows new clients or clients waiting on the pipe to connect.

The Testing Challenge

If you've been following this column regularly, the remaining work is fairly elementary. Listing 2 shows the client program used with this example. Note that this program is identical to the single-instance example from last month's column.

The most difficult task at this point is testing. I found that the command file in Listing 3 works well to test this example. It uses OS/2's `detach` command to spawn several clients—the quantity is intentionally greater than the number of pipe instances available in order to test the connect/disconnect logic in the server.

The pause command within `TEST.CMD` gives the multiple clients time to activate their pipe operations before starting the server, although this isn't strictly necessary. If you modify the client code to print output, remember that detached processes in OS/2 cannot write

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to the console. Thus, you must direct their output to a file or replace the detach command with the start command to start each client in its own session.

By utilizing the event-processing paradigm from Listing1, your program can manage virtually any number of clients with a single pipe name, greatly simplifying the process on both sides of the pipe. The addition of multithreading support can be as simple as spawning additional threads to handle each instance. Alternatively, you can enable one thread to dispatch events on the pipe to individual worker threads. When enabling multithreading support, however, you should use a mechanism to limit the number of concurrent threads; otherwise the program may spawn more threads than OS/2 can reasonably handle. ♦

Carey Gregory is the president of Gateway Technologies Corporation of Canton, Connecticut, a consulting and software development firm specializing in OS/2 and NT. He can be reached via the Internet at careyg@bix.com or on CompuServe at 71034,2205.

```
while (!DosRead(hPipe, Buffer, sizeof(Buffer), &Length)
&& Length > 0)
{
    puts(Buffer);
    if (!strcmp(Buffer, "exit"))
        break;
}

DosClose(hPipe);

return (0);
}
```

LISTING 3

TEST.CMD

```
detach client
detach client
detach client
detach client
detach client
detach client
detach client
detach client
pause
server
```

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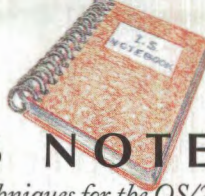
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Circle #253





THE IS NOTEBOOK

Tips and Techniques for the OS/2 Professional

The Sounds of Software

BY GORDON SCOTT AND GENE STEELE

Sound effects rank among the most impressive of OS/2's many compelling features. Yet despite the fact that every copy of OS/2 includes multimedia features, most OS/2 users never hear more than a beep because their systems lack sound cards. Since most applications don't require sound as a productivity component, many OS/2 users never consider upgrading their systems.

Nevertheless, with the multimedia revolution shifting into higher gear, sound support may soon appear as a standard feature in many applications. Forward-looking OS/2 users can take measures to prepare today's installed base for tomorrow's demands. Here are some tips for planning sound upgrades.

Select sound cards that match the system in which they're being installed, your budget, and the functions needed.

- Select a sound card that is supported by OS/2's multimedia features.
- Judge price based on type of usage and length of expected use.

Among the cards supported by OS/2 are Creative Labs' SoundBlaster, SoundBlaster Pro, and SoundBlaster 16, MediaVision's Pro Audio Spectrum 16, and IBM's MWave card. For Micro-Channel machines look for an MCA SoundBlaster or the IBM Audio Capture Playback Adaptor (ACPA).

SoundBlaster is the acknowledged trend-setter in the field, and there are many SoundBlaster-compatible boards on the market. However, SoundBlaster compatibility is not a clear-cut issue. While many boards are software compatible with the SoundBlaster at the DOS/Windows level, they are not

quite hardware compatible with the OS/2 drivers (which were written by Creative Labs). If you choose a SoundBlaster compatible adapter, make sure it has OS/2 drivers. For example, the Gravis Ultra Sound card OS/2 drivers are available both from Gravis and some of the many electronic bulletin board systems that carry OS/2 files.

If you have special needs (and a higher budget), consider additional options such as parallel port sound adapters (for portable computers or occasional shared use among several systems) or high-end components that include MIDI support. MIDI, which is geared toward professionals or musically talented hobbyists, lets your system reach out to MIDI-compliant keyboards and synthesizers. If your goal is simply to expand your computer's vocabulary beyond "beep," however, bypass these options.

In general, you have three choices when it comes to sound card designs: an 8-bit sound card without stereo sound, an 8-bit sound card with stereo sound, or a 16-bit sound card. An 8-bit sound card fits in a half-sized slot and is inexpensive, with some priced under \$50. Typically, 8-bit cards don't support stereo output. That's not a problem if you limit audio output to speech. As your audio spectrum spreads to include music and sound effects, however, you may start to hear popping sounds from an 8-bit system. You can avoid these annoyances by moving up to an 8-bit card with stereo compatibility (the 8-bit Sound Blaster Pro, for example, costs less than \$100).

However, you may also skip 8-bit adapters all together. While most 16-bit sound cards sell at near the \$130

mark, you can find better deals if you shop around. For example, you may find the Media Vision Pro Audio Spectrum 16 on sale for as little as \$50. The price is very reasonable, and the quality is a quantum leap above the 8-bit card. (The Pro Audio Spectrum is actually two sound boards in one. In addition to the 16 Bit Pro Audio, it has the hardware of an 8-bit SoundBlaster. As a result, you can use the Pro Audio portion of the card to provide support for the OS/2 system sounds and multimedia extensions, while simultaneously using the SoundBlaster portion to provide sound for a DOS or Windows session.)

A SoundBlaster board (Basic, Pro, or 16) offers you the widest availability of software drivers and applications. Typically, games and more sophisticated applications such as the IBM Continuous Speech Series (a voice recognition product) enable their audio effects to work with SoundBlaster and SoundBlaster compatible cards first.

Certain sound boards can also support the attachment of a CD-ROM drive. If you plan to drive a CD-ROM using the controller built into your Pro Audio Spectrum 16, SoundBlaster Pro or SoundBlaster 16 card, check with the manufacturers to make sure the CD-ROM drive will be compatible with your sound board. You may need additional OS/2 CD-ROM drivers (typically available through the sound adapter vendor's BBS system).

NOTE: the new versions of OS/2 due later this year will support many of these sound board/CD-ROM combinations directly, saving you the time and frustration of installing special drivers.

Select speakers designed to work with computer audio systems.

- Select magnetically shielded speakers.
- If that's impossible, place the speakers more than 18 inches from your computer monitor to prevent video distortion or damage to your monitor.

Speakers labeled by the manufacturer as "computer speakers" are usually magnetically shielded (check the package to be sure). Most Walkman-style speakers, while sufficient to provide adequate sound without an external amplifier, are *not* shielded. Should you throw caution to the wind and use unshielded speakers, keep them away from your monitor and floppy disks to avoid incidental damage (although sooner or later you'll

probably zap a floppy).

One way to save a few dollars is to make use of equipment you already own. If you happen to have a boom box or desktop stereo system near your computer, you can connect the card's output to the auxiliary input of the boom box or stereo and use the speakers you already own. Most sound cards come with the stereo mini-phone jack to dual RCA plug cable necessary to connect to existing stereo systems. If yours did not, your local Radio Shack store will have the cables.

If you have Dual Boot or Boot Manager, install your new sound card under DOS first, then install the multimedia features for OS/2.

- Physically install the sound card in your

system following the manufacturer's instructions.

- Start your system, booting from DOS.
- Install the software drivers for your card. (These files are usually installed from a diskette provided by the sound card manufacturer.)
- During the installation of your sound card drivers, note the settings you specify when prompted by the installation routine.
- Restart your system, this time booting from OS/2.
- Insert the MMPM/2 disk #1 that came with your copy of OS/2 (or be sure your OS/2 CD-ROM is in your CD-ROM drive).
- Open an OS/2 Window and at the command prompt enter **a:minstall**.
- During the OS/2 multimedia features installation, specify the same parameters you used for the sound card installation under DOS.

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Note: If you have a CD-ROM installed, select the CD-Audio and Software Motion Video components for installation.

If you install a sound card on your system under OS/2, but have a dual boot system or a Boot Manager partition, your OS/2 DOS environment will not configure the system properly. By installing the sound card under DOS first, you can use the settings in the DOS AUTOEXEC.BAT as a reference for changing the OS/2 AUTOEXEC.BAT. Look for two or three lines that specify the SoundBlaster environment settings.

These settings normally involve an address, an interrupt (IRQ), and a DMA channel. Many of the newer 16-bit sound boards control these settings entirely through software, but some of the older cards require adjustments to

jumper on the card (refer to the instructions that came with your card for specific options and jumper locations).

The trickiest setting is the Interrupt. You must avoid IRQ conflicts with other peripherals in the system. For example, the printer port uses IRQ 7—setting the sound card to IRQ 7 would prohibit both printing and sound from working simultaneously. When your sound card installation asks for an IRQ setting, you might select IRQ 5 as an alternative—no standard components use IRQ 5, although you may encounter a conflict with components such as network adapters or bus mouse adapters.

For most SoundBlaster-compatible and SoundBlaster Pro cards, Address 220, IRQ 5, and DMA 1 will provide the best results. Full 16-bit cards like the SoundBlaster 16 and the Pro Audio

Spectrum 16 will require an additional IRQ and DMA channel. Except for the potential conflict with your printer mentioned above, whatever settings work in DOS should also work under OS/2.

For SoundBlaster support in your Windows sessions under OS/2, you must first install the OS/2 Multimedia features and then open a Windows Full Screen session to complete the process. Select the Control Panel in Windows, select **Drivers**, and add the Creative Labs SoundBlaster Driver version 1.5. Use the same driver that you loaded previously during the DOS/Windows install. You will thus avoid problems by making as few configuration changes as possible.

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THE IS NOTEBOOK

- Double click on the Folder icon labeled **Multimedia**.
- Double click on the Bell icon labeled **Sound**.
- Specify which sounds will play for various events on the list

You may add your own sounds to the list of available sounds by using the Digital Audio Player/Recorder to record your own, or you may use "Wave" (.WAV) files made for use under Microsoft Windows. Collections of sounds such as *Star Trek* and *Terminator* sound packs for Windows can be purchased at your local software store. Copy these wave files into your \MMOS2\SOUNDS directory.

Some programs—OS/2 System Sounds from BocaSoft Inc., for example—expand both the list of system sounds and the list of system events to

connect those sounds to. System sounds are mostly entertaining, but with BocaSoft's product, you can create audible flags for unseen system events or those running in the background (such as printer problems and program completion). BocaSoft System Sounds for OS/2 give you about 40 system events altogether. You can attach sounds to slider bars, radio buttons, window borders, and more.

In addition, the BocaSoft program allows you to set aside some of your RAM as a cache for your sounds. This reduces delays between the event (such as opening a window) and its associated sound. Delays result from the disk activity involved in locating and retrieving sound files. If you set a large enough sound cache, after your system has produced a particular sound, it will

read that same sound when next needed from the cache rather than the comparatively slow hard drive. Of course, you should use care when specifying the cache size since cache memory will not be available for other applications. ♦

Gordon Scott and Gene Steele collaborated to bring you this information. Gordon and Gene work for different divisions of IBM in San Jose, California. Gordon's Internet address is gscott@stlvm22.vnet.ibm.com; Gene's Internet address is steele@netcom.com. Gene operates the RING-O BBS with his son and if you send him a note asking politely, he may invite you to join.

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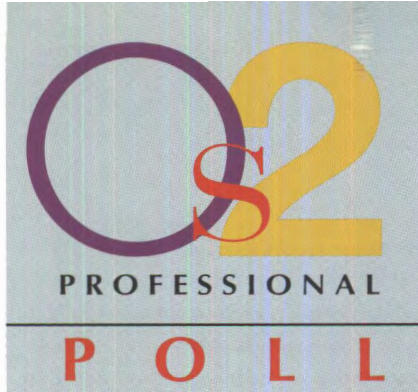


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Welcome to the OS/2 Poll, *OS/2 Professional's* new monthly reader opinion feature. Every month from now on, we'll be seeking your opinions, preferences, and experiences on topics as varied as the marketing of OS/2 to the configuration of your network. Fax your completed survey back to us at (301) 770-7062 and we'll deliver your views directly to top IBM officials so they can hear your voice. Then, we'll publish the results in a forthcoming issue. Thanks for participating.

SURVEY #1

We'd like to know your thoughts on pressing issues facing OS/2.

1. What do you think of IBM's marketing and advertising of OS/2?

- ☐ excellent ☐ good ☐ fair ☐ ineffective ☐ no opinion

2. What do you think of IBM's marketing and advertising of the Lotus SmartSuite?

- ☐ excellent ☐ good ☐ fair ☐ ineffective ☐ no opinion

3. What do you think of the marketing and advertising being done for OS/2-compatible applications?

- ☐ excellent ☐ good ☐ fair ☐ ineffective ☐ no opinion

4. Have you ever seen OS/2 or OS/2 applications in retail outlets?

- ☐ yes ☐ no (please move on to question 5)

If so, have you purchased OS/2 or any OS/2 application in a retail outlet? ☐ yes ☐ no

5. Have you ever seen OS/2 or OS/2 applications in computer catalogs?

- ☐ yes ☐ no (please move on to question 6)

If so, have you purchased OS/2 or any OS/2 application via a catalog? ☐ yes ☐ no

6. What do you think of Louis Gerstner's reform and belt-tightening efforts?

- ☐ long overdue and needed ☐ not sure ☐ it's gone too far

7. What do you think will happen to OS/2 when Chicago comes out next year?

- ☐ OS/2 will compete toe-to-toe ☐ OS/2 will be forgotten in the Chicago furor
☐ The market will select OS/2 as the operating system of choice ☐ no opinion

Please tell us about yourself:

Do you subscribe to *OS/2 Professional*?

- ☐ yes ☐ no

How many employees are in your company?

- ☐ 1-5 ☐ 6-10 ☐ 11-50 ☐ 51-100
☐ 101-500 ☐ 501-1000 ☐ 1000+

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Please fax completed survey to (301) 770-7062

INPUT

continued from page 13

agement products they've been promising since 1992, makes NTAS a lousy choice for inclusion in an existing network or as a product to build a new network around.

Kent Rebman

*Brownsburg, Indiana
via CompuServe*

It was with great interest that I read your recent article about integrating Windows NT and OS/2. Unfortunately, I was disappointed to see that apparently you didn't investigate the situation very well.

In the article you state, "The fact that it's NT on the other end does not affect its transparency." As I recently found out, this is definitely not the case.

We have a token ring-based LAN Server network here. Recently, the IS department started to integrate NTAS servers into the system. While I had no

difficulty attaching to services and devices moved to NTAS from the LAN Server, OS/2 choked when I tried to create a network printer object for an NTAS-based print queue. When I tried to create the object, OS/2 reported the following error:

Printer

The network printer configuration could not be established. Contact your service coordinator followed by:

Workplace Shell

The object for the specified resource cannot be created

No network printer object is created. I took this to both the NT and OS/2 support groups, which replicated the problem. Both then passed the alert along to their respective manufacturer's tech support. Microsoft and IBM responded by acknowledging the problem and promptly pointing the finger at

the other group. Neither offered any real solution or work around.

I can easily attach to the device (Net Use \\<blah><blah> etc.) but OS/2 cannot see the queue or create an object on the desktop to view/manage the queue. Instead, every print job results in an archaic looking, full screen notification message being flashed unceremoniously at the beginning and end of any print job (DOS, Windows, OS/2). Also, I can no longer view/access the queue to manage my jobs.

It's all good and well to wax on about the connectivity and transparency between NT and Novell but it's hardly responsible journalism, especially in an OS/2-related magazine, to fail to investigate the ramifications of NT and OS/2 based LAN services. Stating that "We performed a series of tests using both the NetBEUI that is normally used with OS/2 LAN Server..." is a far

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cry from installing and testing in a real world environment. I am also disappointed that the *OS/2 Professional* editorial staff did not insist that the NTAS-OS/2 integration be more thoroughly investigated. Not everyone has a Novell network. Some of us actually use an OS/2 LAN with OS/2.

While Microsoft may have "delivered a capable server product that fits well into an OS/2 environment," it is hardly "a transparent relationship."

John Phillips

Team OS/2

Victoria, British Columbia, Canada
via the Internet

Thanks for your comments. Unfortunately, the facilities in this lab are apparently more limited than yours, which may be why we didn't run across this problem. I'm pleased you were willing to share your findings with us, since that will alert other readers to this possibility.—Wayne Rash

DeScribe for OS/2 only?

This is in response to *Beta is Bucks* [July, Marketline]. The comments I'm hearing about DeScribe being a true OS/2 application, and its success being an indication of the OS/2 market, are not consistent with other information that I've seen.

In the April issue [Special Report], you state that DeScribe is built from common code for OS/NT, and Windows 3.1. The NT is fine, because like OS/2, NT is a true 32-bit, linear address space, multitasking operating system. But Windows 3.1 is not.

How could DeScribe have been designed as a true OS/2 application if it also works under Windows 3.1? Sure, it is compiled with a 32-bit compiler (a big plus), maybe runs some major functions in a separate thread, and uses the OS/2 help system when on OS/2. But the limitations of Windows 3.1 must constrain its design. Second, trying to

make the code work under Windows 3.1 must make the development more difficult and time consuming. The major value of having something like OS/2 as a target platform is that it allows a more straightforward application design. But that benefit is lost if you must target a lesser system as well.

DeScribe is now claiming that it has lost \$10 million because it is in the OS/2 market. What are the profits from the Windows version of DeScribe? How can DeScribe claim that it is a true OS/2 application when it can also be compiled for Windows 3.1?

Tom Coe

University of Nevada
Las Vegas, Nevada

Some of these issues are addressed in this month's Hands On, which describes the current state of the beta program.—Bradley D. Klierer ♦

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STACKER FOR OS/2 & DOS

AN ILLUSTRATED TUTORIAL

by Lisa Heller, Windcrest/McGraw Hill, \$19.95, 224 pages

REVIEWED BY KEN MACKIN

Many manufacturer-supplied software manuals seem like "Revenge of the Nerds." Reading as though they were pecked out a finger at a time by inarticulate engineers who didn't want to be writing them, they gloss over important concepts and explain poorly what needs badly to be understood.

"How to" books like Lisa Heller's originally leveled the playing field for the non-techies by allowing them to get up to speed on new products. Stacker's manual is better than most, so Heller's efforts in some ways duplicate the manual. Nonetheless, if you need a supplement to Stac Electronics' documentation covering Stacker for OS/2 and DOS, this new book may be it. It covers the basics of hard drive organization, file systems, and operating system approaches to storage that aren't covered in depth in the Stacker manual.

Lisa Heller worked for Stac as a technical writer before she wrote her first book, *User's Guide for Stacker 3.0*. In fact, this book (as the front cover proudly states) was reviewed by Stac engineers before it went to press. The result is a technically very accurate presentation.

Tidbits Galore

The book includes short chapters on working with other Stacker products, dual boots, Stacker 3.x interoperability, MS-DOS 6.0, and Stacker co-processors. But the most

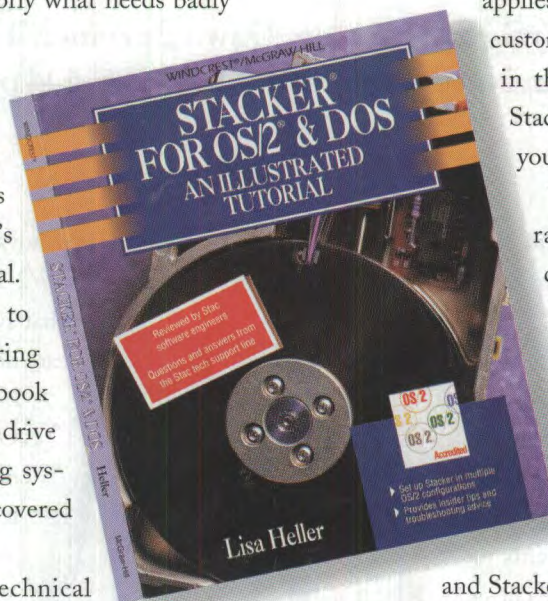
interesting part is a happy story of converting Microsoft DoubleSpace partitions to Stacker 3.1. In the wake of the Stac patent infringement lawsuit—and Microsoft's ultimate purchase of millions of dollars in Stac stock—this chapter

applies only to those unfortunate Microsoft customers who got the DoubleSpace hook in their mouth and couldn't get it out. Stacker 3.1 offers to pull the hook out for you.

There are other chapters on configuration, understanding what Stacker changes in a system, adding floppies and removable hard disks to the Stacker domain, and mixing Stacker and non-Stacker environments. Heller also includes sections on changing your Stacker configuration, using DOS utilities, Stacker-supplied utilities, OS/2 and Stacker co-existence, and troubleshooting.

The book is not a "must-read," though. If it had better troubleshooting information, examples of real life situations where Stacker doesn't work well, discussions of problems some users have with the product, and took a more objective tone, I would have responded better to it.

Heller's background contributes to the book reading like a supplemental manual. The tone is upbeat, even happy. In a number of instances I thought the presentation was *too* happy, to the point of bordering on a lack of objectivity. Stacker is a



BOOKSTAX

great product in use by millions of people. But it's not perfect, something Heller fails to point out. Some people have problems using Stacker, and the thin section on troubleshooting belies that fact.

In fact, I am tempted to see this book as a promotional effort for Stac Electronics, written by an excellent technical writer who, while independent, is still too close to her subject to provide the maximum value to the reader.

How's That?

The zillions of "how to" books on the market are proof that people want to understand the products they use. They are also a reflection of the frequency of software piracy and the

inadequacy of many software manuals.

The manual from Stacker is good, so the value added in Heller's well-written effort comes from her exceptional ability to ripen the "green bananas" of technical information into digestible yellow ones with the grace and clarity of a talented writer. ♦

Ken Mackin is president of Product Logic, an Atlanta-based consulting firm. He can be reached at (404) 667-6292 or via Compu-Serve at 76004,3626.

OS/2 2.1 APPLICATION PROGRAMMER'S GUIDE

by Jody Kelly, Craig Swearingen, Dawn Bezviner, Theodore Shrader,
Van Nostrand Reinhold, \$34.95, 644 pages

REVIEWED BY JAMES T. NORMAN

The *OS/2 2.1 Application Programmer's Guide* is a detailed look at how to program using the C language for the current version of OS/2.

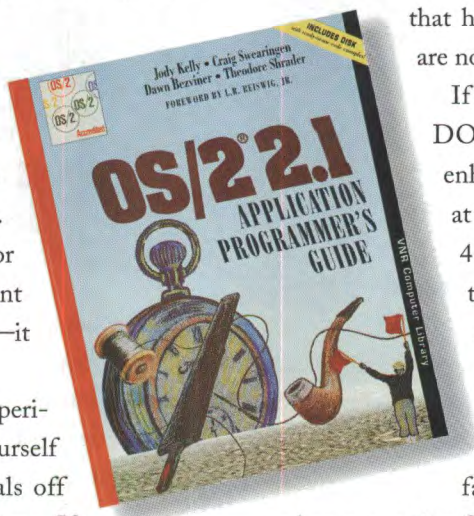
This book contains almost everything a programmer needs to write applications. But those looking for an introduction to this topic had best look elsewhere. This book does not have an introductory section. It does not explain end user requirements for OS/2, or how to add, use, or tune the current version of OS/2. In fact, the title is accurate—it is a *programmer's* guide.

In fact, it's a useful one. If you are an experienced programmer, you likely will find yourself moving other disjointed reference materials off your shelf to make room for this 1 inch volume. If you've done some programming in OS/2, it will summarize the functions that have changed and those that have been

extended to take advantages of the memory model available in OS/2 2.1. It even deals with those few APIs that have been deleted and explains why they are no longer needed.

If you have experience programming in DOS (and who hasn't) and you want to enhance your career opportunities, starting at chapter 2 and continuing with chapters 4 through 15 will get you a solid foundation on why to use the OS/2 environment and how to build applications exploiting the capabilities of the operating system.

Included is a complete list of the factors a programmer should consider when converting from DOS to OS/2. The most significant of them, memory management, is one of the complaints most often heard from DOS programmers.



BOOKSTAX

Structurally and organizationally, Chapters 3 through 15, which lay out the architecture of the operating system, are the best. They present the control program interfaces in each layer and discuss the functions and capabilities of the various APIs.

While this is called an application programmer's guide, it is more for the individual writing programs to exploit the facilities of the operating system than the programmer writing end user applications in some high-level language.

Because there are coding illustrations in most of the chapters, a diskette containing that code is included. The diskette also includes all of the make instructions for the samples. A book on this subject would get an F unless such code were included; organizing it well and including the supporting routines gets the diskette a solid B +. (An A + would require building on the diskette additional illustrations and documentation that elaborated on the book contents.)

This is one of the most thorough studies published of the facilities of this release of OS/2. It is more than a guide; it is a reference for all to use. It should be on the shelves of most serious programmers because the design of OS/2 applications are, in many ways, the models of the programmer interfaces in many other systems. As OS/2 transitions to the full 32-bit flat memory model and the Presentation Manager based graphical user interface grows in end user appeal and use, demand for programmers with these skills will increase dramatically. ♦

James T. Norman is president of Norcom Consulting, Inc. which specializes in client/server consulting. He can be reached via MCI Mail at 107-6464.

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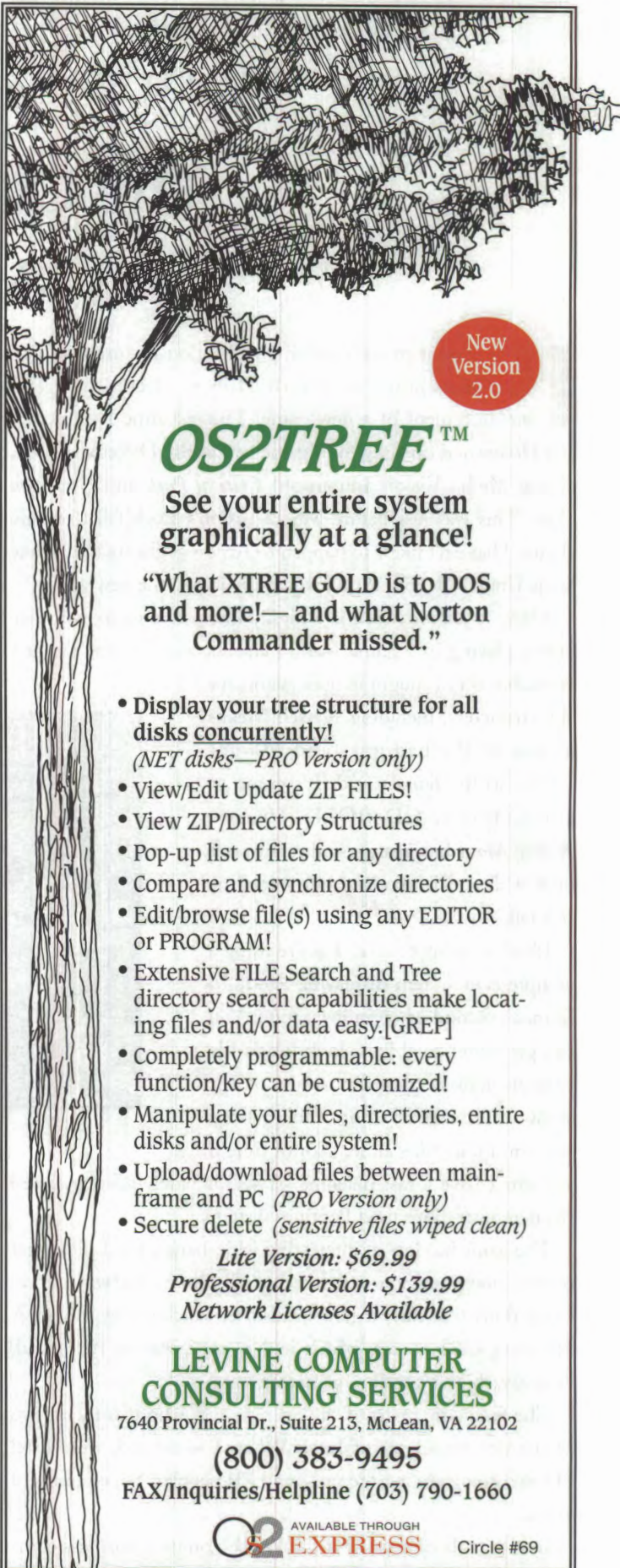
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The Chip Game

BY JERRY POURNELLE

In July I went to the Academy of Motion Picture Arts and Sciences building in Beverly Hills to attend the grand announcement of a new game. The last time I went to a big Hollywood opening for a game was at the Directors Guild, where Media Vision announced *Critical Path* and *Quantum Gate*. This was just before Media Vision's stock fell to single digits. That isn't likely to happen to Access Software (Salt Lake City, Utah; 801-359-2900), which developed the new game.

Under A Killing Moon is a highly interactive game with live actors playing in a game world. The sets and objects are artwork, but they brought in good actors for the characters, including Russell Means as one of the bad guys and Margot Kidder as the female lead. It's going to come on three CD-ROMs. *Under a Killing Moon* has a suggested retail price of \$99.95 and is expected out sometime this fall.

It's all very impressive. They're using a compression system displaying about 15 frames a second when in live action. You can get closer to things, look inside file cabinets, look at framed diplomas on the walls—that sort of thing. Going from room to room takes time, a lot of time if you don't have a fast machine. A 486 is barely adequate, and the demonstrations used Pentium systems.

The game has lots of interesting whiz-bangs, but I didn't get to see enough of it to tell whether I'll like it. Anyway, whiz-bangs don't that carry a game; it's story, which is why the original *Wing Commander*, which had a story, was so successful. Anyway, this isn't really a game column.

The fascinating part of the opening was who was there: two senior vice presidents of Intel. What, I wondered, were Intel officials doing among the press and PR people? So, of course, I asked.

Intel was there because it thinks the domestic business com-

puter market is nearly saturated. There's some growth potential, but not a lot; most sales are going to be replacements now. Moreover, 486 machines are good enough for a lot of business uses, and Pentium systems will be sufficient for a long time to come.

The big growth will be in home systems. Those will come in two flavors: systems that grow out of controlling your TV and VCR, and real computers with CD-ROM drives that can give you interactive games like *Under A Killing Moon*. It's that latter market that interests Intel. The reason is simple: there's a potential for 100 million chip sales before the home market is saturated.

Moreover, games like *Under A Killing Moon* need fast systems. It takes a lot of computing power to generate all the objects and wallpaper in a typical room in that game, and do it in an acceptable time. Games players may not insist on instantaneous moves from room to room, but they sure aren't going to wait long either. To Intel that means a lot of Pentium chips.

"But what about PowerPC?" I asked.

"What about it? You get your PowerPC system and it runs your

Macintosh applications about as well as a 68000. Macintosh used to own the visuals, but now there are lots of video accelerator boards to do PC screens, and you need raw computing power to build all those objects."

"That's System Seven," I said. "But what about OS/2 on the PowerPC?"

"Nah, OS/2 is a system for big airlines and department stores and mission critical applications in big corporations. People want home systems that are easy to use. That means Windows and Chicago. OS/2 is for propellerheads."

I don't say I agree. But isn't it interesting that Intel executives think this way? ♦



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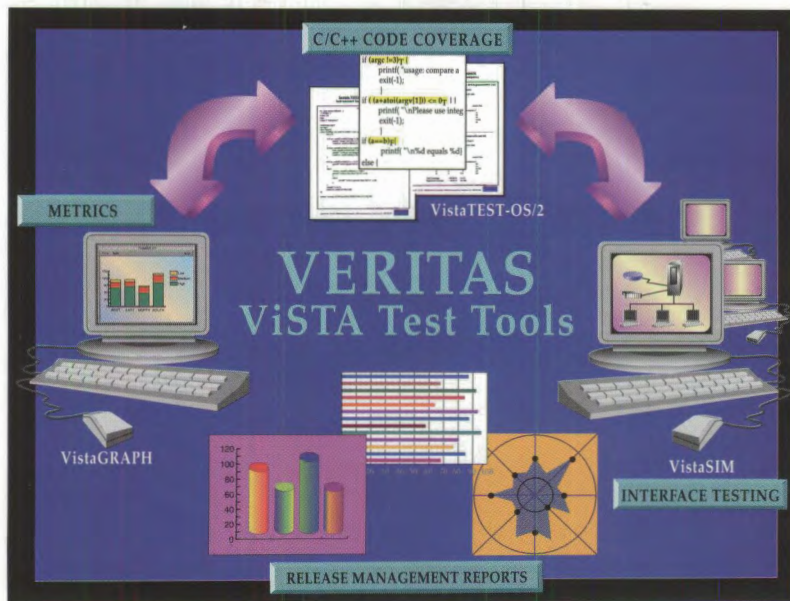


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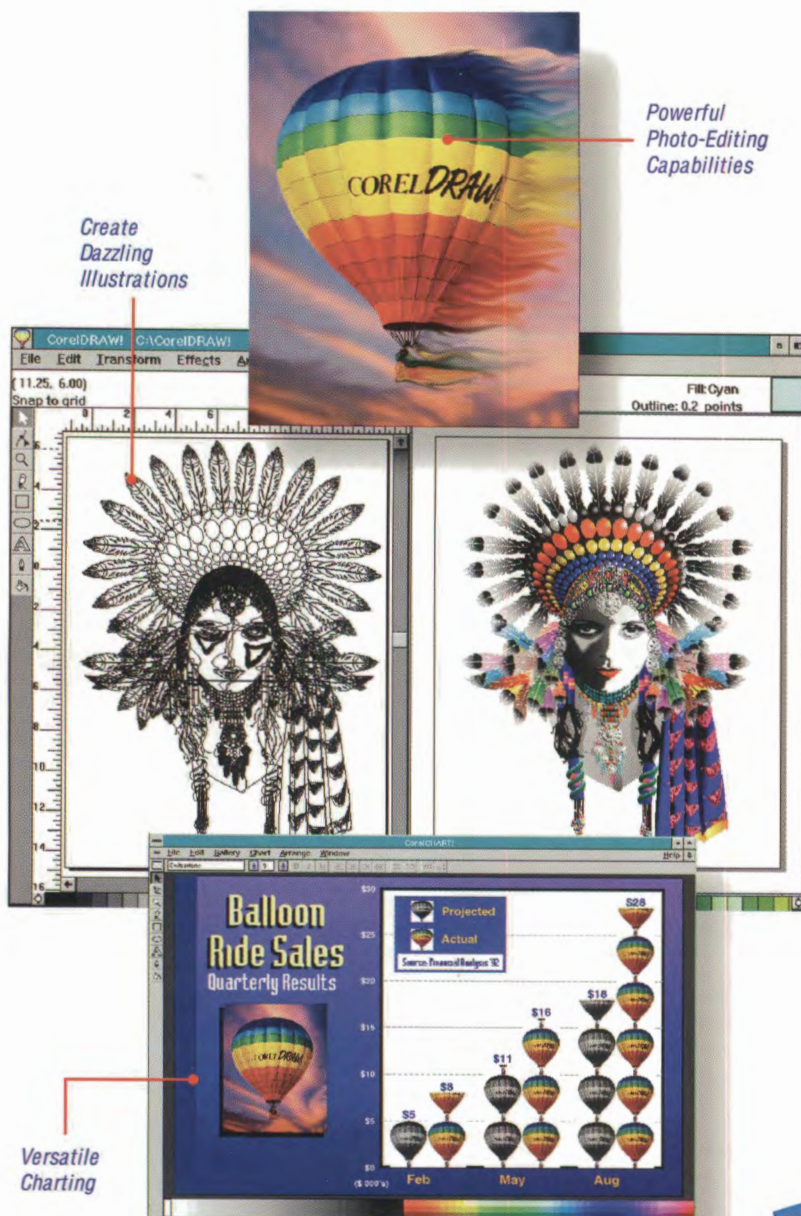
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